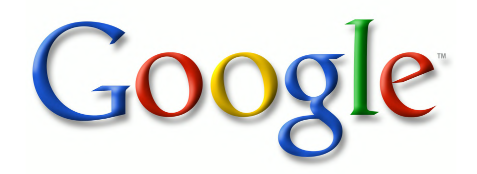
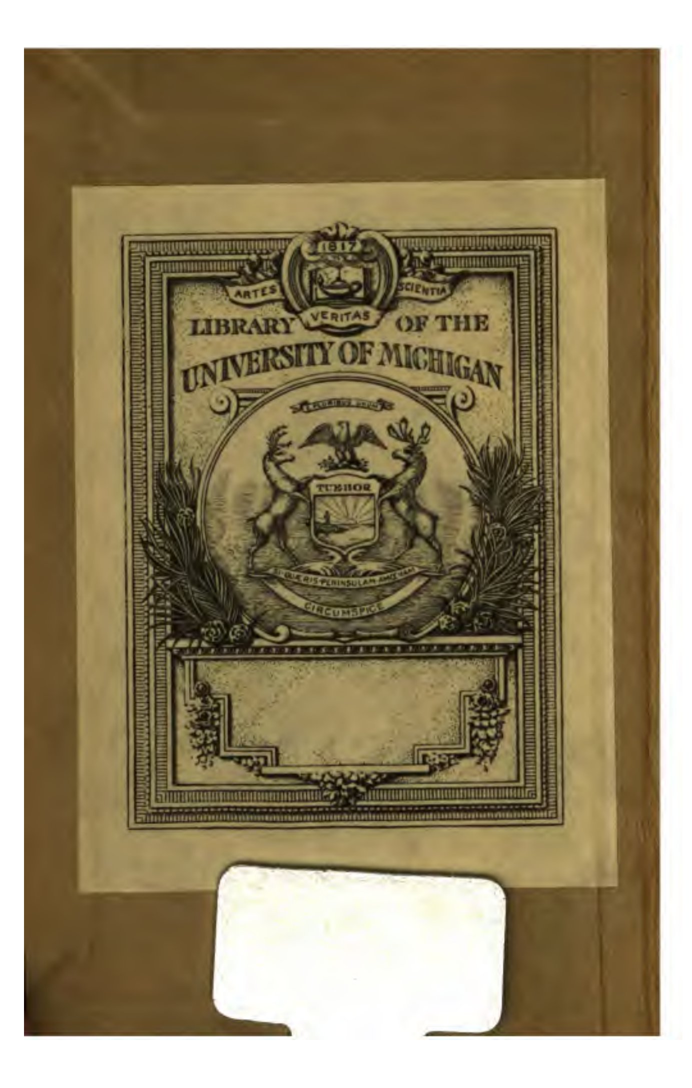
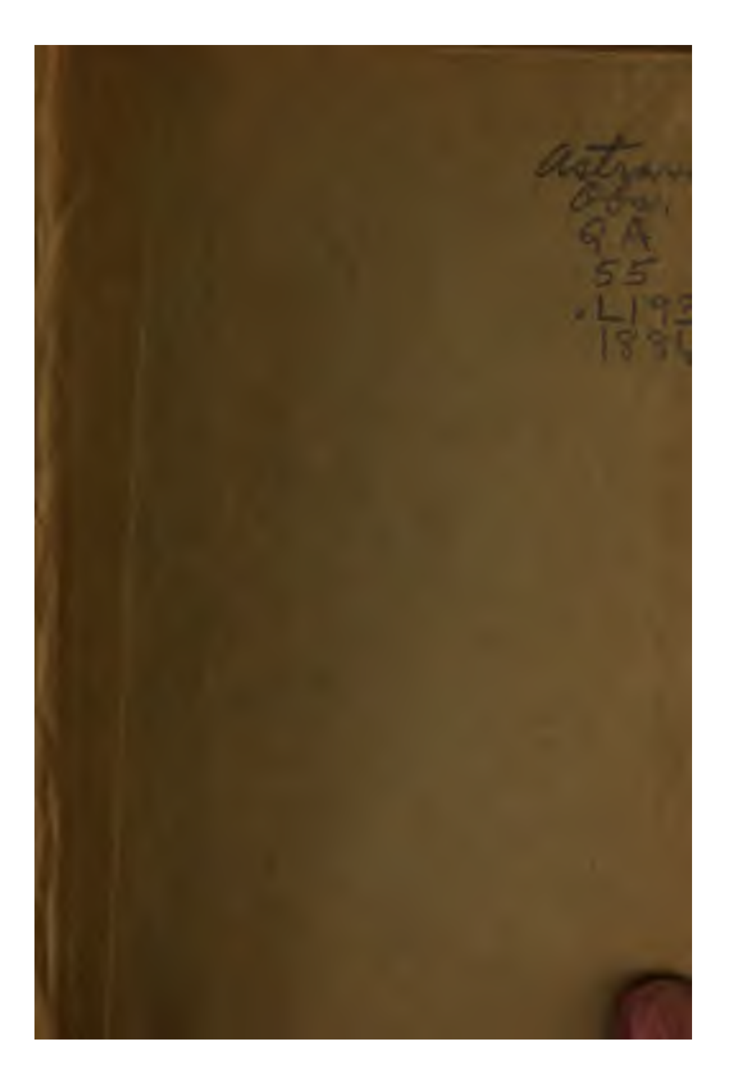
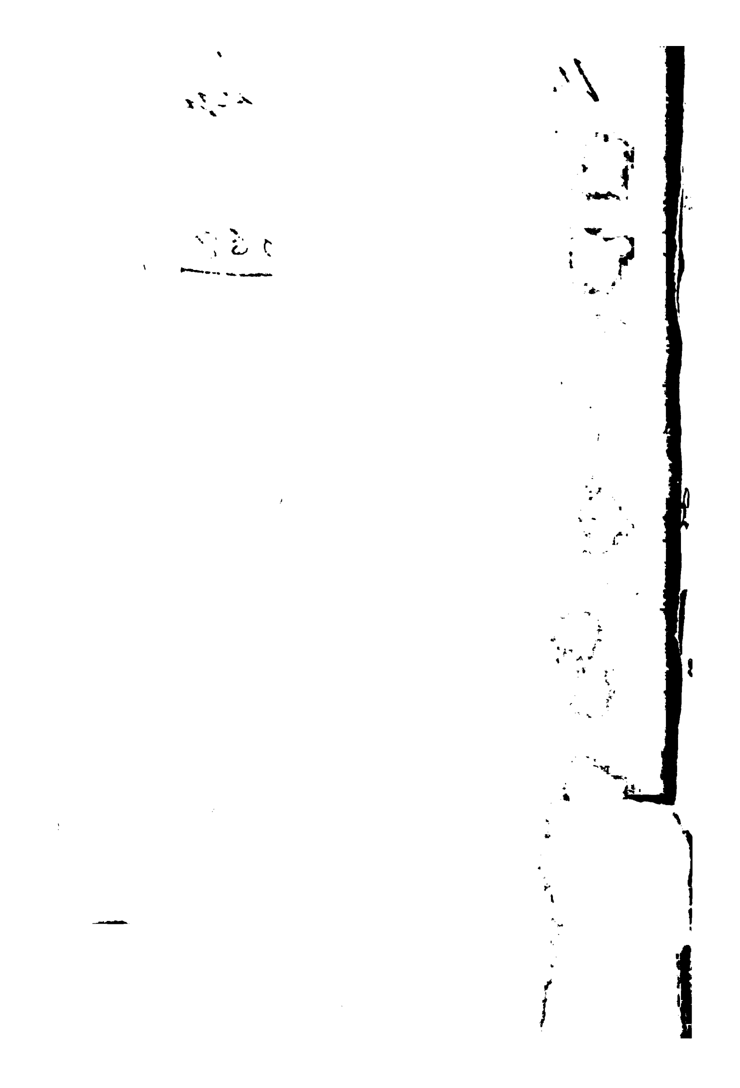



1817
ARTES
SCIENTIA
VERITAS
LIBRARY OF THE
UNIVERSITY OF MICHIGAN
TUEBOR
SI QUAERIS PENINSULAM AMOENAM
CIRCUMSPICE


QA
55





Jérôme de Lalande's

Tafeln

der fünfstelligen

Logarithmen.

Vi[illegible], neu bearbeitete Stereotyp-Ausgabe.

Sechste Auflage.

Leipzig,
Verlag von Otto Holtze.
1886.

Leipzig,
Druck von Metzger & Wittig.

Vorwort.

Die hier vorliegende neue Ausgabe der ebenso beliebten als bekannten Lalandischen Logarithmentafeln tritt in wesentlich veränderter und wie man hofft verbesserter Form vor das mathematische Publikum.

Ursprünglich enthielten diese Tafeln ihrem eigentlichen Zwecke entsprechend nur Logarithmen. Erst in den von H. G. Köhler besorgten Ausgaben (1827. 1844. 1849.) wurden die Gaußischen Additions- und Subtraction logarithmen, Tafeln aus der Physik und Chemie so wie Formelntafeln, mit aufgenommen. In der jetzt erscheinenden vierten Ausgabe hat man alle diese zum Theil fremdartigen Zusätze wieder beseitigt und den dadurch gewonnenen Raum zur Erweiterung der Logarithmen der goniometrischen Functionen benutzt.

Kaum dürfte es nöthig scheinen, die Entfernung der der Physik und Chemie angehörigen Tafeln zu rechtfertigen. Eine große Menge von physikalischen namentlich aber chemischen Zahlenangaben erfahren bei dem raschen Fortschritt dieser Wissenschaften so schnell hintereinander Verbesserungen, daß sie schon nach kurzer Zeit veraltet sind. Die Stereotypirung derselben ist sonach ohne Zweifel kein praktisches Unternehmen gewesen.

Anders könnte man dagegen urtheilen über die erfolgte Wiederbeseitigung der Gaußischen Logarithmen. Allerdings soll nicht in Abrede gestellt werden, daß sie in einzelnen Fällen sehr gute Dienste leisten können, wie z. B. bei der Auflösung von höheren Gleichungen

mit drei Gliedern nach der Gaußischen Methode. Allein ihr eigentlicher Zweck, die Logarithmen der Summe oder Differenz zweier Zahlen aus den Logarithmen dieser Zahlen selbst zu finden, wird ohne sie auf dem gewöhnlichen Wege fast ebenso schnell und bequem erreicht. Wenigstens hat eine gehaltene Umfrage bei einer Anzahl von Mathematikern und namentlich solchen, die oft mit numerischen Rechnungen beschäftigt waren, keinerlei Bedauern darüber kundgegeben, wenn diese Logarithmen allenthalben wieder beseitigt würden.

Der auf diese Weise erlangte Raum wurde dazu benutzt, die Logarithmen der Sinusse und Tangenten beziehentlich Cosinusse und Cotangenten für die ersten und letzten 13 Grade des Quadranten anfangs von Sekunde zu Sekunde, später von 10 zu 10 Sekunden aufzunehmen, Logarithmen, welche sich in jeder größeren Tafel ohne Ausnahme finden. Durch diesen Zusatz hat die Tafel vorzüglich für diejenigen sehr gewonnen, welche sie nicht blos zum Schulgebrauche, sondern auch für praktische Zwecke verwerthen wollen.

So mag denn das bescheidene Büchlein aufs Neue in alle Welt gehen und in seinem neuen Gewande sich nicht blos die alten Freunde erhalten, sondern auch neue zu erwerben suchen.

Leipzig, im Februar 1868.

Dr. Karl Heym.

Vorwort zur zweiten Auflage

der vierten Stereotypausgabe.

Die Lalande'schen Tafeln haben auch in ihrer neuen Gestalt wieder so viel Theilnahme gefunden, daß bereits jetzt zur Veranstaltung eines neuen Abdruckes derselben verschritten werden konnte.

Um dem Wunsche einiger Schulmänner, deren Schüler durch die älteren Ausgaben des Buches an den Gebrauch der Gaußischen Logarithmen gewöhnt waren, zu genügen, sind diese Tafeln jetzt, gewissermaßen als Anhang, wieder mit aufgenommen, der Preis jedoch dadurch nicht erhöht worden.

Leipzig, im April 1870.

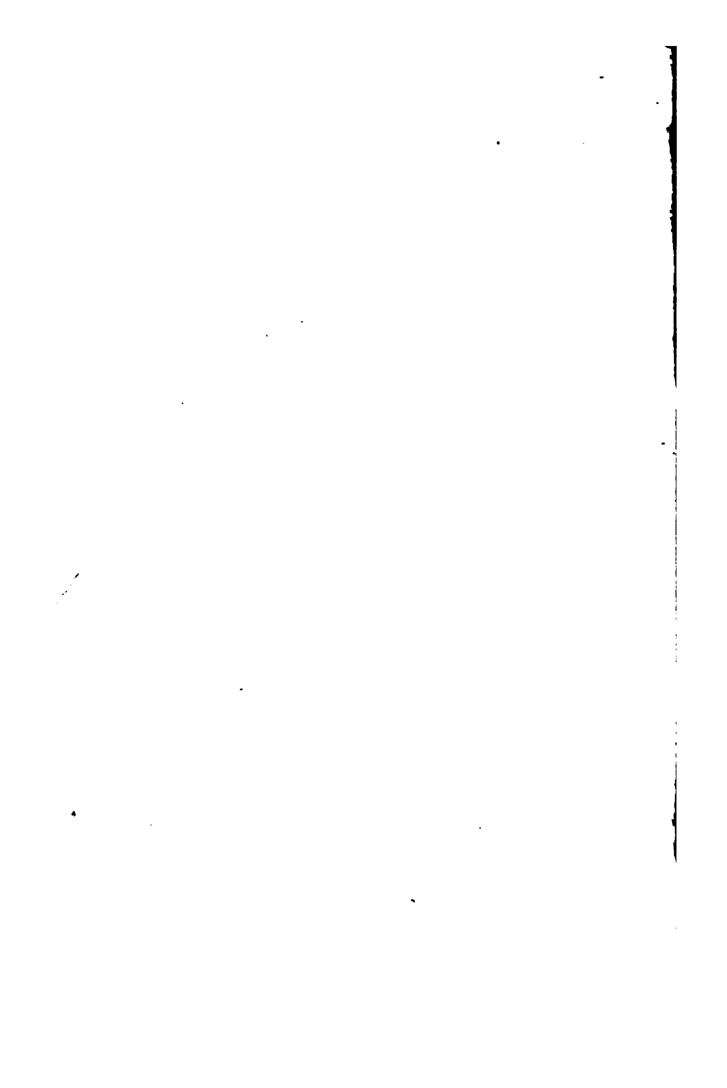
Dr. Karl Heym.

Inhaltsverzeichniß.

Logarithmen

der Zahlen

von 1 bis 10000.



N.	0. 0′ 0″ Log.	N.	0. 0′ 30 Log.	N.	0. 1′ 0″ Log.
0	inf. nég.	30	1.47712	60	1.77815
1	0.00000	31	1.49136	61	1.78533
2	0.30103	32	1.50515	62	1.79239
3	0.47712	33	1.51851	63	1.79934
4	0.60206	34	1.53148	64	1.80618
5	0.69897	35	1.54407	65	1.81291
6	0.77815	36	1.55630	66	1.81954
7	0.84510	37	1.56820	67	1.82607
8	0.90309	38	1.57978	68	1.83251
9	0.95424	39	1.59106	69	1.83885
10	1.00000	40	1.60206	70	1.84510
11	1.04139	41	1.61278	71	1.85126
12	1.07918	42	1.62325	72	1.85733
13	1.11394	43	1.63347	73	1.86332
14	1.14613	44	1.64345	74	1.86923
15	1.17609	45	1.65321	75	1.87506
16	1.20412	46	1.66276	76	1.88081
17	1.23045	47	1.67210	77	1.88649
18	1.25527	48	1.68124	78	1.89209
19	1.27875	49	1.69020	79	1.89763
20	1.30103	50	1.69897	80	1.90309
21	1.32222	51	1.70757	81	1.90849
22	1.34242	52	1.71600	82	1.91381
23	1.36173	53	1.72428	83	1.91908
24	1.38021	54	1.73239	84	1.92428
25	1.39794	55	1.74036	85	1.92942
26	1.41497	56	1.74819	86	1.93450
27	1.43136	57	1.75587	87	1.93952
28	1.44716	58	1.76343	88	1.94448
29	1.46240	59	1.77085	89	1.94939
30	1.47712	60	1.77815	90	1.95424

N.	0. 1′ 30″ Log.	N.	0. 2′ 0″ Log.	N.	0. 2′ 30″ Log.
90	1.95424	120	2.07918	150	2.17609
91	1.95904	121	2.08279	151	2.17898
92	1.96379	122	2.08636	152	2.18184
93	1.96848	123	2.08991	153	2.18469
94	1.97313	124	2.09342	154	2.18752
95	1.97772	125	2.09691	155	2.19033
96	1.98227	126	2.10037	156	2.19312
97	1.98677	127	2.10380	157	2.19590
98	1.99123	128	2.10721	158	2.19866
99	1.99564	129	2.11059	159	2.20140
100	2.00000	130	2.11394	160	2.20412
101	2.00432	131	2.11727	161	2.20683
102	2.00860	132	2.12057	162	2.20952
103	2.01284	133	2.12385	163	2.21219
104	2.01703	134	2.12710	164	2.21484
105	2.02119	135	2.13033	165	2.21748
106	2.02531	136	2.13354	166	2.22011
107	2.02938	137	2.13672	167	2.22272
108	2.03342	138	2.13988	168	2.22531
109	2.03743	139	2.14301	169	2.22789
110	2.04139	140	2.14613	170	2.23045
111	2.04532	141	2.14922	171	2.23300
112	2.04922	142	2.15229	172	2.23553
113	2.05308	143	2.15534	173	2.23805
114	2.05690	144	2.15836	174	2.24055
115	2.06070	145	2.16137	175	2.24304
116	2.06446	146	2.16435	176	2.24551
117	2.06819	147	2.16732	177	2.24797
118	2.07188	148	2.17026	178	2.25042
119	2.07555	149	2.17319	179	2.25285
120	2.07918	150	2.17609	180	2.25527

N.	0. 3′ 0″ Log.	N.	0. 3′ 30″ Log.	N.	0. 4′ 0″ Log.
180	2.25527	210	2.32222	240	2.38021
181	2.25768	211	2.32428	241	2.38202
182	2.26007	212	2.32634	242	2.38382
183	2.26245	213	2.32838	243	2.38561
184	2.26482	214	2.33041	244	2.38739
185	2.26717	215	2.33244	245	2.38917
186	2.26951	216	2.33445	246	2.39094
187	2.27184	217	2.33646	247	2.39270
188	2.27416	218	2.33846	248	2.39445
189	2.27646	219	2.34044	249	2.39620
190	2.27875	220	2.34242	250	2.39794
191	2.28103	221	2.34439	251	2.39967
192	2.28330	222	2.34635	252	2.40140
193	2.28556	223	2.34830	253	2.40312
194	2.28780	224	2.35025	254	2.40483
195	2.29003	225	2.35218	255	2.40654
196	2.29226	226	2.35411	256	2.40824
197	2.29447	227	2.35603	257	2.40993
198	2.29667	228	2.35793	258	2.41162
199	2.29885	229	2.35984	259	2.41330
200	2.30103	230	2.36173	260	2.41497
201	2.30320	231	2.36361	261	2.41664
202	2.30535	232	2.36549	262	2.41830
203	2.30750	233	2.36736	263	2.41996
204	2.30963	234	2.36922	264	2.42160
205	2.31175	235	2.37107	265	2.42325
206	2.31387	236	2.37291	266	2.42488
207	2.31597	237	2.37475	267	2.42651
208	2.31806	238	2.37658	268	2.42813
209	2.32015	239	2.37840	269	2.42975
210	2.32222	240	2.38021	270	2.43136

N.	0. 4 30 Log.	N.	0. 5′ 0 Log.	N.	0. 5′ 30 Log.
270	2.43136	300	2.47712	330	2.51851
271	2.43297	301	2.47857	331	2.51983
272	2.43457	302	2.48001	332	2.52114
273	2.43616	303	2.48144	333	2.52244
274	2.43775	304	2.48287	334	2.52375
275	2.43933	305	2.48430	335	2.52504
276	2.44091	306	2.48572	336	2.52634
277	2.44248	307	2.48714	337	2.52763
278	2.44404	308	2.48855	338	2.52892
279	2.44560	309	2.48996	339	2.53020
280	2.44716	310	2.49136	340	2.53148
281	2.44871	311	2.49276	341	2.53275
282	2.45025	312	2.49415	342	2.53403
283	2.45179	313	2.49554	343	2.53529
284	2.45332	314	2.49693	344	2.53656
285	2.45484	315	2.49831	345	2.53782
286	2.45637	316	2.49969	346	2.53908
287	2.45788	317	2.50106	347	2.54033
288	2.45939	318	2.50243	348	2.54158
289	2.46090	319	2.50379	349	2.54283
290	2.46240	320	2.50515	350	2.54407
291	2.46389	321	2.50651	351	2.54531
292	2.46538	322	2.50786	352	2.54654
293	2.46687	323	2.50920	353	2.54777
294	2.46835	324	2.51055	354	2.54900
295	2.46982	325	2.51188	355	2.55023
296	2.47129	326	2.51322	356	2.55145
297	2.47276	327	2.51455	357	2.55267
298	2.47422	328	2.51587	358	2.55388
299	2.47567	329	2.51720	359	2.55509
300	2.47712	330	2.51851	360	2.55630

N.	0. 6′ 0″ Log.	N.	0. 6′ 30″ Log.	N.	0. 7′ 0″ Log.
360	2.55630	390	2.59106	420	2.62325
361	2.55751	391	2.59218	421	2.62428
362	2.55871	392	2.59329	422	2.62531
363	2.55991	393	2.59439	423	2.62634
364	2.56110	394	2.59550	424	2.62737
365	2.56229	395	2.59660	425	2.62839
366	2.56348	396	2.59770	426	2.62941
367	2.56467	397	2.59879	427	2.63043
368	2.56585	398	2.59988	428	2.63144
369	2.56703	399	2.60097	429	2.63246
370	2.56820	400	2.60206	430	2.63347
371	2.56937	401	2.60314	431	2.63448
372	2.57054	402	2.60423	432	2.63548
373	2.57171	403	2.60531	433	2.63649
374	2.57287	404	2.60638	434	2.63749
375	2.57403	405	2.60746	435	2.63849
376	2.57519	406	2.60853	436	2.63949
377	2.57634	407	2.60959	437	2.64048
378	2.57749	408	2.61066	438	2.64147
379	2.57864	409	2.61172	439	2.64246
380	2.57978	410	2.61278	440	2.64345
381	2.58092	411	2.61384	441	2.64444
382	2.58206	412	2.61490	442	2.64542
383	2.58320	413	2.61595	443	2.64640
384	2.58433	414	2.61700	444	2.64738
385	2.58546	415	2.61805	445	2.64836
386	2.58659	416	2.61909	446	2.64933
387	2.58771	417	2.62014	447	2.65031
388	2.58883	418	2.62118	448	2.65128
389	2.58995	419	2.62221	449	2.65225
390	2.59106	420	2.62325	450	2.65321

N.	0. 7' 30'' Log.	N.	0. 8' 0'' Log.	N.	0. 8' 30'' Log.
450	2.65321	480	2.68124	510	2.70757
451	2.65418	481	2.68215	511	2.70842
452	2.65514	482	2.68305	512	2.70927
453	2.65610	483	2.68395	513	2.71012
454	2.65706	484	2.68485	514	2.71096
455	2.65801	485	2.68574	515	2.71181
456	2.65896	486	2.68664	516	2.71265
457	2.65992	487	2.68753	517	2.71349
458	2.66087	488	2.68842	518	2.71433
459	2.66181	489	2.68931	519	2.71517
460	2.66276	490	2.69020	520	2.71600
461	2.66370	491	2.69108	521	2.71684
462	2.66464	492	2.69197	522	2.71767
463	2.66558	493	2.69285	523	2.71850
464	2.66652	494	2.69373	524	2.71933
465	2.66745	495	2.69461	525	2.72016
466	2.66839	496	2.69548	526	2.72099
467	2.66932	497	2.69636	527	2.72181
468	2.67025	498	2.69723	528	2.72263
469	2.67117	499	2.69810	529	2.72346
470	2.67210	500	2.69897	530	2.72428
471	2.67302	501	2.69984	531	2.72509
472	2.67394	502	2.70070	532	2.72591
473	2.67486	503	2.70157	533	2.72673
474	2.67578	504	2.70243	534	2.72754
475	2.67669	505	2.70329	535	2.72835
476	2.67761	506	2.70415	536	2.72916
477	2.67852	507	2.70501	537	2.72997
478	2.67943	508	2.70586	538	2.73078
479	2.68034	509	2.70672	539	2.73159
480	2.68124	510	2.70757	540	2.73239

N.	0. 9′ 0″ Log.	N.	0. 9′ 30″ Log.	N.	0. 10′ 0″ Log.
540	2.73239	570	2.75587	600	2.77815
541	2.73320	571	2.75664	601	2.77887
542	2.73400	572	2.75740	602	2.77960
543	2.73480	573	2.75815	603	2.78032
544	2.73560	574	2.75891	604	2.78104
545	2.73640	575	2.75967	605	2.78176
546	2.73719	576	2.76042	606	2.78247
547	2.73799	577	2.76118	607	2.78319
548	2.73878	578	2.76193	608	2.78390
549	2.73957	579	2.76268	609	2.78462
550	2.74036	580	2.76343	610	2.78533
551	2.74115	581	2.76418	611	2.78604
552	2.74194	582	2.76492	612	2.78675
553	2.74273	583	2.76567	613	2.78746
554	2.74351	584	2.76641	614	2.78817
555	2.74429	585	2.76716	615	2.78888
556	2.74507	586	2.76790	616	2.78958
557	2.74586	587	2.76864	617	2.79029
558	2.74663	588	2.76938	618	2.79099
559	2.74741	589	2.77012	619	2.79169
560	2.74819	590	2.77085	620	2.79239
561	2.74896	591	2.77159	621	2.79309
562	2.74974	592	2.77232	622	2.79379
563	2.75051	593	2.77305	623	2.79449
564	2.75128	594	2.77379	624	2.79518
565	2.75205	595	2.77452	625	2.79588
566	2.75282	596	2.77525	626	2.79657
567	2.75358	597	2.77597	627	2.79727
568	2.75435	598	2.77670	628	2.79796
569	2.75511	599	2.77743	629	2.79865
570	2.75587	600	2.77815	630	2.79934

N.	0. 10′ 30″ Log.	N.	0. 11 0″ Log.	N.	0. 11′ 30″ Log.
630	2.79934	660	2.81954	690	2.83885
631	2.80003	661	2.82020	691	2.83948
632	2.80072	662	2.82086	692	2.84011
633	2.80140	663	2.82151	693	2.84073
634	2.80209	664	2.82217	694	2.84136
635	2.80277	665	2.82282	695	2.84198
636	2.80346	666	2.82347	696	2.84261
637	2.80414	667	2.82413	697	2.84323
638	2.80482	668	2.82478	698	2.84386
639	2.80550	669	2.82543	699	2.84448
640	2.80618	670	2.82607	700	2.84510
641	2.80686	671	2.82672	701	2.84572
642	2.80754	672	2.82737	702	2.84634
643	2.80821	673	2.82802	703	2.84696
644	2.80889	674	2.82866	704	2.84757
645	2.80956	675	2.82930	705	2.84819
646	2.81023	676	2.82995	706	2.84880
647	2.81090	677	2.83059	707	2.84942
648	2.81158	678	2.83123	708	2.85003
649	2.81224	679	2.83187	709	2.85065
650	2.81291	680	2.83251	710	2.85126
651	2.81358	681	2.83315	711	2.85187
652	2.81425	682	2.83378	712	2.85248
653	2.81491	683	2.83442	713	2.85309
654	2.81558	684	2.83506	714	2.85370
655	2.81624	685	2.83569	715	2.85431
656	2.81690	686	2.83632	716	2.85491
657	2.81757	687	2.83696	717	2.85552
658	2.81823	688	2.83759	718	2.85612
659	2.81889	689	2.83822	719	2.85673
660	2.81954	690	2.83885	720	2.85733

N.	0. 12′ 0″ Log.	N.	0. 12′ 30″ Log.	N.	0. 13′ 0″ Log.
720	2.85733	750	2.87506	780	2.89209
721	2.85794	751	2.87564	781	2.89265
722	2.85854	752	2.87622	782	2.89321
723	2.85914	753	2.87679	783	2.89376
724	2.85974	754	2.87737	784	2.89432
725	2.86034	755	2.87795	785	2.89487
726	2.86094	756	2.87852	786	2.89542
727	2.86153	757	2.87910	787	2.89597
728	2.86213	758	2.87967	788	2.89653
729	2.86273	759	2.88024	789	2.89708
730	2.86332	760	2.88081	790	2.89763
731	2.86392	761	2.88138	791	2.89818
732	2.86451	762	2.88195	792	2.89873
733	2.86510	763	2.88252	793	2.89927
734	2.86570	764	2.88309	794	2.89982
735	2.86629	765	2.88366	795	2.90037
736	2.86688	766	2.88423	796	2.90091
737	2.86747	767	2.88480	797	2.90146
738	2.86806	768	2.88536	798	2.90200
739	2.86864	769	2.88593	799	2.90255
740	2.86923	770	2.88649	800	2.90309
741	2.86982	771	2.88705	801	2.90363
742	2.87040	772	2.88762	802	2.90417
743	2.87099	773	2.88818	803	2.90472
744	2.87157	774	2.88874	804	2.90526
745	2.87216	775	2.88930	805	2.90580
746	2.87274	776	2.88986	806	2.90634
747	2.87332	777	2.89042	807	2.90687
748	2.87390	778	2.89098	808	2.90741
749	2.87448	779	2.89154	809	2.90795
750	2.87506	780	2.89209	810	2.90849

N.	0. 13′ 30″ Log.	N.	0. 14′ 0″ Log.	N.	0. 14′ 30″ Log.
810	2.90849	840	2.92428	870	2.93952
811	2.90902	841	2.92480	871	2.94002
812	2.90956	842	2.92531	872	2.94052
813	2.91009	843	2.92583	873	2.94101
814	2.91062	844	2.92634	874	2.94151
815	2.91116	845	2.92686	875	2.94201
816	2.91169	846	2.92737	876	2.94250
817	2.91222	847	2.92788	877	2.94300
818	2.91275	848	2.92840	878	2.94349
819	2.91328	849	2.92891	879	2.94399
820	2.91381	850	2.92942	880	2.94448
821	2.91434	851	2.92993	881	2.94498
822	2.91487	852	2.93044	882	2.94547
823	2.91540	853	2.93095	883	2.94596
824	2.91593	854	2.93146	884	2.94645
825	2.91645	855	2.93197	885	2.94694
826	2.91698	856	2.93247	886	2.94743
827	2.91751	857	2.93298	887	2.94792
828	2.91803	858	2.93349	888	2.94841
829	2.91855	859	2.93399	889	2.94890
830	2.91908	860	2.93450	890	2.94939
831	2.91960	861	2.93500	891	2.94988
832	2.92012	862	2.93551	892	2.95036
833	2.92065	863	2.93601	893	2.95085
834	2.92117	864	2.93651	894	2.95134
835	2.92169	865	2.93702	895	2.95182
836	2.92221	866	2.93752	896	2.95231
837	2.92273	867	2.93802	897	2.95279
838	2.92324	868	2.93852	898	2.95328
839	2.92376	869	2.93902	899	2.95376
840	2.92428	870	2.93952	900	2.95424

N.	0. 15′ 0″ Log.	N.	0. 15′ 30″ Log.	N.	0. 16′ 0″ Log.
900	2.95424	930	2.96848	960	2.98227
901	2.95472	931	2.96895	961	2.98272
902	2.95521	932	2.96942	962	2.98318
903	2.95569	933	2.96988	963	2.98363
904	2.95617	934	2.97035	964	2.98408
905	2.95665	935	2.97081	965	2.98453
906	2.95713	936	2.97128	966	2.98498
907	2.95761	937	2.97174	967	2.98543
908	2.95809	938	2.97220	968	2.98588
909	2.95856	939	2.97267	969	2.98632
910	2.95904	940	2.97313	970	2.98677
911	2.95952	941	2.97359	971	2.98722
912	2.95999	942	2.97405	972	2.98767
913	2.96047	943	2.97451	973	2.98811
914	2.96095	944	2.97497	974	2.98856
915	2.96142	945	2.97543	975	2.98900
916	2.96190	946	2.97589	976	2.98945
917	2.96237	947	2.97635	977	2.98989
918	2.96284	948	2.97681	978	2.99034
919	2.96332	949	2.97727	979	2.99078
920	2.96379	950	2.97772	980	2.99123
921	2.96426	951	2.97818	981	2.99167
922	2.96473	952	2.97864	982	2.99211
923	2.96520	953	2.97909	983	2.99255
924	2.96567	954	2.97955	984	2.99300
925	2.96614	955	2.98000	985	2.99344
926	2.96661	956	2.98046	986	2.99388
927	2.96708	957	2.98091	987	2.99432
928	2.96755	958	2.98137	988	2.99476
929	2.96802	959	2.98182	989	2.99520
930	2.96848	960	2.98227	990	2.99564

N.	0. 16' 30" Log.	D.	N.	0. 17' 0" Log.	D.	N.	0. 17' 30" Log.	D.
990	2.99564	43	1020	3.00860	43	1050	3.02119	41
991	2.99607	44	1021	3.00903	42	1051	3.02160	42
992	2.99651	44	1022	3.00945	43	1052	3.02202	41
993	2.99695	44	1023	3.00988	42	1053	3.02243	41
994	2.99739	43	1024	3.01030	42	1054	3.02284	41
995	2.99782	44	1025	3.01072	43	1055	3.02325	41
996	2.99826	44	1026	3.01115	42	1056	3.02366	41
997	2.99870	43	1027	3.01157	42	1057	3.02407	42
998	2.99913	44	1028	3.01199	43	1058	3.02449	41
999	2.99957	43	1029	3.01242	42	1059	3.02490	41
1000	3.00000	43	1030	3.01284	42	1060	3.02531	41
1001	3.00043	44	1031	3.01326	42	1061	3.02572	40
1002	3.00087	43	1032	3.01368	42	1062	3.02612	41
1003	3.00130	43	1033	3.01410	42	1063	3.02653	41
1004	3.00173	44	1034	3.01452	42	1064	3.02694	41
1005	3.00217	43	1035	3.01494	42	1065	3.02735	41
1006	3.00260	43	1036	3.01536	42	1066	3.02776	40
1007	3.00303	43	1037	3.01578	42	1067	3.02816	41
1008	3.00346	43	1038	3.01620	42	1068	3.02857	41
1009	3.00389	43	1039	3.01662	41	1069	3.02898	40
1010	3.00432	43	1040	3.01703	42	1070	3.02938	41
1011	3.00475	43	1041	3.01745	42	1071	3.02979	40
1012	3.00518	43	1042	3.01787	41	1072	3.03019	41
1013	3.00561	43	1043	3.01828	42	1073	3.03060	40
1014	3.00604	43	1044	3.01870	42	1074	3.03100	41
1015	3.00647	42	1045	3.01912	41	1075	3.03141	40
1016	3.00689	43	1046	3.01953	42	1076	3.03181	41
1017	3.00732	43	1047	3.01995	41	1077	3.03222	40
1018	3.00775	42	1048	3.02036	42	1078	3.03262	40
1019	3.00817	43	1049	3.02078	41	1079	3.03302	40
1020	3.00860		1050	3.02119		1080	3.03342	

N.	0 18′ 0″ Log.	D.	N.	0′ 18′ 30″ Log.	D.	N.	0 19′ 0″ Log.	D.
1080	3.03342	41	1110	3.04532	39	1140	3.05690	39
1081	3.03383	40	1111	3.04571	39	1141	3.05729	38
1082	3.03423	40	1112	3.04610	40	1142	3.05767	38
1083	3.03463	40	1113	3.04650	39	1143	3.05805	38
1084	3.03503	40	1114	3.04689	38	1144	3.05843	38
1085	3.03543	40	1115	3.04727	39	1145	3.05881	37
1086	3.03583	40	1116	3.04766	39	1146	3.05918	38
1087	3.03623	40	1117	3.04805	39	1147	3.05956	38
1088	3.03663	40	1118	3.04844	39	1148	3.05994	38
1089	3.03703	40	1119	3.04883	39	1149	3.06032	38
1090	3.03743	39	1120	3.04922	39	1150	3.06070	38
1091	3.03782	40	1121	3.04961	38	1151	3.06108	37
1092	3.03822	40	1122	3.04999	39	1152	3.06145	38
1093	3.03862	40	1123	3.05038	39	1153	3.06183	38
1094	3.03902	39	1124	3.05077	38	1154	3.06221	37
1095	3.03941	40	1125	3.05115	39	1155	3.06258	38
1096	3.03981	40	1126	3.05154	38	1156	3.06296	37
1097	3.04021	39	1127	3.05192	39	1157	3.06333	38
1098	3.04060	40	1128	3.05231	38	1158	3.06371	37
1099	3.04100	39	1129	3.05269	39	1159	3.06408	38
1100	3.04139	40	1130	3.05308	38	1160	3.06446	37
1101	3.04179	39	1131	3.05346	39	1161	3.06483	38
1102	3.04218	40	1132	3.05385	38	1162	3.06521	37
1103	3.04258	39	1133	3.05423	38	1163	3.06558	37
1104	3.04297	39	1134	3.05461	39	1164	3.06595	38
1105	3.04336	40	1135	3.05500	38	1165	3.06633	37
1106	3.04376	39	1136	3.05538	38	1166	3.06670	37
1107	3.04415	39	1137	3.05576	38	1167	3.06707	37
1108	3.04454	39	1138	3.05614	38	1168	3.06744	37
1109	3.04493	39	1139	3.05652	38	1169	3.06781	38
1110	3.04532		1140	3.05690		1170	3.06819	

N.	0. 19′ 30″ Log.	D.	N.	0. 20′ 0″ Log.	D.	N.	0. 20′ 30″ Log.	D.
1170	3.06819	37	1200	3.07918	36	1230	3.08991	35
1171	3.06856	37	1201	3.07954	36	1231	3.09026	35
1172	3.06893	37	1202	3.07990	37	1232	3.09061	35
1173	3.06930	37	1203	3.08027	36	1233	3.09096	36
1174	3.06967	37	1204	3.08063	36	1234	3.09132	35
1175	3.07004	37	1205	3.08099	36	1235	3.09167	35
1176	3.07041	37	1206	3.08135	36	1236	3.09202	35
1177	3.07078	37	1207	3.08171	36	1237	3.09237	35
1178	3.07115	36	1208	3.08207	36	1238	3.09272	35
1179	3.07151	37	1209	3.08243	36	1239	3.09307	35
1180	3.07188	37	1210	3.08279	35	1240	3.09342	35
1181	3.07225	37	1211	3.08314	36	1241	3.09377	35
1182	3.07262	36	1212	3.08350	36	1242	3.09412	35
1183	3.07298	37	1213	3.08386	36	1243	3.09447	35
1184	3.07335	37	1214	3.08422	36	1244	3.09482	35
1185	3.07372	36	1215	3.08458	35	1245	3.09517	35
1186	3.07408	37	1216	3.08493	36	1246	3.09552	35
1187	3.07445	37	1217	3.08529	36	1247	3.09587	34
1188	3.07482	36	1218	3.08565	35	1248	3.09621	35
1189	3.07518	37	1219	3.08600	36	1249	3.09656	35
1190	3.07555	36	1220	3.08636	36	1250	3.09691	35
1191	3.07591	37	1221	3.08672	35	1251	3.09726	34
1192	3.07628	36	1222	3.08707	36	1252	3.09760	35
1193	3.07664	36	1223	3.08743	35	1253	3.09795	35
1194	3.07700	37	1224	3.08778	36	1254	3.09830	34
1195	3.07737	36	1225	3.08814	35	1255	3.09864	35
1196	3.07773	36	1226	3.08849	35	1256	3.09899	35
1197	3.07809	37	1227	3.08884	36	1257	3.09934	34
1198	3.07846	36	1228	3.08920	35	1258	3.09968	35
1199	3.07882	36	1229	3.08955	36	1259	3.10003	34
1200	3.07918		1230	3.08991		1260	3.10037	

N.	0. 21′ 0″ Log.	D.	N.	0. 21′ 30″ Log.	D.	N.	0. 22′ 0″ Log.	D.
1260	3.10037	35	1290	3.11059	34	1320	3.12057	33
1261	3.10072	34	1291	3.11093	33	1321	3.12090	33
1262	3.10106	34	1292	3.11126	34	1322	3.12123	33
1263	3.10140	35	1293	3.11160	33	1323	3.12156	33
1264	3.10175	34	1294	3.11193	34	1324	3.12189	33
1265	3.10209	34	1295	3.11227	34	1325	3.12222	32
1266	3.10243	35	1296	3.11261	33	1326	3.12254	33
1267	3.10278	34	1297	3.11294	33	1327	3.12287	33
1268	3.10312	34	1298	3.11327	34	1328	3.12320	32
1269	3.10346	34	1299	3.11361	33	1329	3.12352	33
1270	3.10380	35	1300	3.11394	34	1330	3.12385	33
1271	3.10415	34	1301	3.11428	33	1331	3.12418	32
1272	3.10449	34	1302	3.11461	33	1332	3.12450	33
1273	3.10483	34	1303	3.11494	34	1333	3.12483	33
1274	3.10517	34	1304	3.11528	33	1334	3.12516	32
1275	3.10551	34	1305	3.11561	33	1335	3.12548	33
1276	3.10585	34	1306	3.11594	34	1336	3.12581	32
1277	3.10619	34	1307	3.11628	33	1337	3.12613	33
1278	3.10653	34	1308	3.11661	33	1338	3.12646	32
1279	3.10687	34	1309	3.11694	33	1339	3.12678	32
1280	3.10721	34	1310	3.11727	33	1340	3.12710	33
1281	3.10755	34	1311	3.11760	33	1341	3.12743	32
1282	3.10789	34	1312	3.11793	33	1342	3.12775	33
1283	3.10823	34	1313	3.11826	34	1343	3.12808	32
1284	3.10857	33	1314	3.11860	33	1344	3.12840	32
1285	3.10890	34	1315	3.11893	33	1345	3.12872	33
1286	3.10924	34	1316	3.11926	33	1346	3.12905	32
1287	3.10958	34	1317	3.11959	33	1347	3.12937	32
1288	3.10992	33	1318	3.11992	32	1348	3.12969	32
1289	3.11025	34	1319	3.12024	33	1349	3.13001	32
1290	3.11059		1320	3.12057		1350	3.13033	

N.	0. 22′ 30″ Log.	D.	N.	0. 23′ 0″ Log.	D.	N.	0. 23′ 30″ Log.	D.
1350	3.13033	33	1380	3.13988	31	1410	3.14922	31
1351	3.13066	32	1381	3.14019	32	1411	3.14953	30
1352	3.13098	32	1382	3.14051	31	1412	3.14983	31
1353	3.13130	32	1383	3.14082	32	1413	3.15014	31
1354	3.13162	32	1384	3.14114	31	1414	3.15045	31
1355	3.13194	32	1385	3.14145	31	1415	3.15076	30
1356	3.13226	32	1386	3.14176	32	1416	3.15106	31
1357	3.13258	32	1387	3.14208	31	1417	3.15137	31
1358	3.13290	32	1388	3.14239	31	1418	3.15168	30
1359	3.13322	32	1389	3.14270	31	1419	3.15198	31
1360	3.13354	32	1390	3.14301	32	1420	3.15229	30
1361	3.13386	32	1391	3.14333	31	1421	3.15259	31
1362	3.13418	32	1392	3.14364	31	1422	3.15290	30
1363	3.13450	31	1393	3.14395	31	1423	3.15320	31
1364	3.13481	32	1394	3.14426	31	1424	3.15351	30
1365	3.13513	32	1395	3.14457	32	1425	3.15381	31
1366	3.13545	32	1396	3.14489	31	1426	3.15412	30
1367	3.13577	32	1397	3.14520	31	1427	3.15442	31
1368	3.13609	31	1398	3.14551	31	1428	3.15473	30
1369	3.13640	32	1399	3.14582	31	1429	3.15503	31
1370	3.13672	32	1400	3.14613	31	1430	3.15534	30
1371	3.13704	31	1401	3.14644	31	1431	3.15564	30
1372	3.13735	32	1402	3.14675	31	1432	3.15594	31
1373	3.13767	32	1403	3.14706	31	1433	3.15625	30
1374	3.13799	31	1404	3.14737	31	1434	3.15655	30
1375	3.13830	32	1405	3.14768	31	1435	3.15685	30
1376	3.13862	31	1406	3.14799	30	1436	3.15715	31
1377	3.13893	32	1407	3.14829	31	1437	3.15746	30
1378	3.13925	31	1408	3.14860	31	1438	3.15776	30
1379	3.13956	32	1409	3.14891	31	1439	3.15806	30
1380	3.13988		1410	3.14922		1440	3.15836	

N.	0. 24′ 0″ Log.	D.	N.	0. 24′ 30″ Log.	D.	N.	0. 25′ 0″ Log.	D.
1440	3.15836	30	1470	3.16732	29	1500	3.17609	29
1441	3.15866	31	1471	3.16761	30	1501	3.17638	29
1442	3.15897	30	1472	3.16791	29	1502	3.17667	29
1443	3.15927	30	1473	3.16820	30	1503	3.17696	29
1444	3.15957	30	1474	3.16850	29	1504	3.17725	29
1445	3.15987	30	1475	3.16879	30	1505	3.17754	28
1446	3.16017	30	1476	3.16909	29	1506	3.17782	29
1447	3.16047	30	1477	3.16938	29	1507	3.17811	29
1448	3.16077	30	1478	3.16967	30	1508	3.17840	29
1449	3.16107	30	1479	3.16997	29	1509	3.17869	29
1450	3.16137	30	1480	3.17026	30	1510	3.17898	28
1451	3.16167	30	1481	3.17056	29	1511	3.17926	29
1452	3.16197	30	1482	3.17085	29	1512	3.17955	29
1453	3.16227	29	1483	3.17114	29	1513	3.17984	29
1454	3.16256	30	1484	3.17143	30	1514	3.18013	28
1455	3.16286	30	1485	3.17173	29	1515	3.18041	29
1456	3.16316	30	1486	3.17202	29	1516	3.18070	29
1457	3.16346	30	1487	3.17231	29	1517	3.18099	28
1458	3.16376	30	1488	3.17260	29	1518	3.18127	29
1459	3.16406	29	1489	3.17289	30	1519	3.18156	28
1460	3.16435	30	1490	3.17319	29	1520	3.18184	29
1461	3.16465	30	1491	3.17348	29	1521	3.18213	28
1462	3.16495	29	1492	3.17377	29	1522	3.18241	29
1463	3.16524	30	1493	3.17406	29	1523	3.18270	28
1464	3.16554	30	1494	3.17435	29	1524	3.18298	29
1465	3.16584	29	1495	3.17464	29	1525	3.18327	28
1466	3.16613	30	1496	3.17493	29	1526	3.18355	29
1467	3.16643	30	1497	3.17522	29	1527	3.18384	28
1468	3.16673	29	1498	3.17551	29	1528	3.18412	29
1469	3.16702	30	1499	3.17580	29	1529	3.18441	28
1470	3.16732		1500	3.17609		1530	3.18469	

N.	0. 25′ 30″ Log.	D.	N.	0. 26′ 0″ Log.	D.	N.	0. 26′ 30″ Log.	D.
1530	3.18469	29	1560	3.19312	28	1590	3.20140	27
1531	3.18498	28	1561	3.19340	28	1591	3.20167	27
1532	3.18526	28	1562	3.19368	28	1592	3.20194	28
1533	3.18554	29	1563	3.19396	28	1593	3.20222	27
1534	3.18583	28	1564	3.19424	27	1594	3.20249	27
1535	3.18611	28	1565	3.19451	28	1595	3.20276	27
1536	3.18639	28	1566	3.19479	28	1596	3.20303	27
1537	3.18667	29	1567	3.19507	28	1597	3.20330	28
1538	3.18696	28	1568	3.19535	27	1598	3.20358	27
1539	3.18724	28	1569	3.19562	28	1599	3.20385	27
1540	3.18752	28	1570	3.19590	28	1600	3.20412	27
1541	3.18780	28	1571	3.19618	27	1601	3.20439	27
1542	3.18808	29	1572	3.19645	28	1602	3.20466	27
1543	3.18837	28	1573	3.19673	27	1603	3.20493	27
1544	3.18865	28	1574	3.19700	28	1604	3.20520	28
1545	3.18893	28	1575	3.19728	28	1605	3.20548	27
1546	3.18921	28	1576	3.19756	27	1606	3.20575	27
1547	3.18949	28	1577	3.19783	28	1607	3.20602	27
1548	3.18977	28	1578	3.19811	27	1608	3.20629	27
1549	3.19005	28	1579	3.19838	28	1609	3.20656	27
1550	3.19033	28	1580	3.19866	27	1610	3.20683	27
1551	3.19061	28	1581	3.19893	28	1611	3.20710	27
1552	3.19089	28	1582	3.19921	27	1612	3.20737	26
1553	3.19117	28	1583	3.19948	28	1613	3.20763	27
1554	3.19145	28	1584	3.19976	27	1614	3.20790	27
1555	3.19173	28	1585	3.20003	27	1615	3.20817	27
1556	3.19201	28	1586	3.20030	28	1616	3.20844	27
1557	3.19229	28	1587	3.20058	27	1617	3.20871	27
1558	3.19257	28	1588	3.20085	27	1618	3.20898	27
1559	3.19285	27	1589	3.20112	28	1619	3.20925	27
1560	3.19312		1590	3.20140		1620	3.20952	

N.	0. 27′ 0″ Log.	D.	N.	0. 27′ 30″ Log.	D.	N.	0. 28′ 0″ Log.	D.
1620	3.20952	26	1650	3.21748	27	1680	3.22531	26
1621	3.20978	27	1651	3.21775	26	1681	3.22557	26
1622	3.21005	27	1652	3.21801	26	1682	3.22583	25
1623	3.21032	27	1653	3.21827	27	1683	3.22608	26
1624	3.21059	26	1654	3.21854	26	1684	3.22634	26
1625	3.21085	27	1655	3.21880	26	1685	3.22660	26
1626	3.21112	27	1656	3.21906	26	1686	3.22686	26
1627	3.21139	26	1657	3.21932	26	1687	3.22712	25
1628	3.21165	27	1658	3.21958	27	1688	3.22737	26
1629	3.21192	27	1659	3.21985	26	1689	3.22763	26
1630	3.21219	26	1660	3.22011	26	1690	3.22789	25
1631	3.21245	27	1661	3.22037	26	1691	3.22814	26
1632	3.21272	27	1662	3.22063	26	1692	3.22840	26
1633	3.21299	26	1663	3.22089	26	1693	3.22866	25
1634	3.21325	27	1664	3.22115	26	1694	3.22891	26
1635	3.21352	26	1665	3.22141	26	1695	3.22917	26
1636	3.21378	27	1666	3.22167	27	1696	3.22943	25
1637	3.21405	26	1667	3.22194	26	1697	3.22968	26
1638	3.21431	27	1668	3.22220	26	1698	3.22994	25
1639	3.21458	26	1669	3.22246	26	1699	3.23019	26
1640	3.21484	27	1670	3.22272	26	1700	3.23045	25
1641	3.21511	26	1671	3.22298	26	1701	3.23070	26
1642	3.21537	27	1672	3.22324	26	1702	3.23096	25
1643	3.21564	26	1673	3.22350	26	1703	3.23121	26
1644	3.21590	27	1674	3.22376	25	1704	3.23147	25
1645	3.21617	26	1675	3.22401	26	1705	3.23172	26
1646	3.21643	26	1676	3.22427	26	1706	3.23198	25
1647	3.21669	27	1677	3.22453	26	1707	3.23228	26
1648	3.21696	26	1678	3.22479	26	1708	3.23249	25
1649	3.21722	26	1679	3.22505	26	1709	3.23274	26
1650	3.21748		1680	3.22531		1710	3.23300	

N.	0. 28′ 30″ Log.	D.	N.	0. 29′ 0″ Log.	D.	N.	0. 29′ 30″ Log.	D.
1710	3.23300	25	1740	3.24055	25	1770	3.24797	25
1711	3.23325	25	1741	3.24080	25	1771	3.24822	24
1712	3.23350	26	1742	3.24105	25	1772	3.24846	25
1713	3.23376	25	1743	3.24130	25	1773	3.24871	24
1714	3.23401	25	1744	3.24155	25	1774	3.24895	25
1715	3.23426	26	1745	3.24180	24	1775	3.24920	24
1716	3.23452	25	1746	3.24204	25	1776	3.24944	25
1717	3.23477	25	1747	3.24229	25	1777	3.24969	24
1718	3.23502	26	1748	3.24254	25	1778	3.24993	25
1719	3.23528	25	1749	3.24279	25	1779	3.25018	24
1720	3.23553	25	1750	3.24304	25	1780	3.25042	24
1721	3.23578	25	1751	3.24329	24	1781	3.25066	25
1722	3.23603	26	1752	3.24353	25	1782	3.25091	24
1723	3.23629	25	1753	3.24378	25	1783	3.25115	24
1724	3.23654	25	1754	3.24403	25	1784	3.25139	25
1725	3.23679	25	1755	3.24428	24	1785	3.25164	24
1726	3.23704	25	1756	3.24452	25	1786	3.25188	24
1727	3.23729	25	1757	3.24477	25	1787	3.25212	25
1728	3.23754	25	1758	3.24502	25	1788	3.25237	24
1729	3.23779	26	1759	3.24527	24	1789	3.25261	24
1730	3.23805	25	1760	3.24551	25	1790	3.25285	25
1731	3.23830	25	1761	3.24576	25	1791	3.25310	24
1732	3.23855	25	1762	3.24601	24	1792	3.25334	24
1733	3.23880	25	1763	3.24625	25	1793	3.25358	24
1734	3.23905	25	1764	3.24650	24	1794	3.25382	24
1735	3.23930	25	1765	3.24674	25	1795	3.25406	25
1736	3.23955	25	1766	3.24699	25	1796	3.25431	24
1737	3.23980	25	1767	3.24724	24	1797	3.25455	24
1738	3.24005	25	1768	3.24748	25	1798	3.25479	24
1739	3.24030	25	1769	3.24773	24	1799	3.25503	24
1740	3.24055		1770	3.24797		1800	3.25527	

No.	0. 30′ 0″ Log.	D.	N.	0. 30′ 30″ Log.	D.	N.	0. 31′ 0″ Log.	D.
1800	3.25527	24	1830	3.26245	24	1860	3.26951	24
1801	3.25551	24	1831	3.26269	24	1861	3.26975	23
1802	3.25575	25	1832	3.26293	23	1862	3.26998	23
1803	3.25600	24	1833	3.26316	24	1863	3.27021	24
1804	3.25624	24	1834	3.26340	24	1864	3.27045	23
1805	3.25648	24	1835	3.26364	23	1865	3.27068	23
1806	3.25672	24	1836	3.26387	24	1866	3.27091	23
1807	3.25696	24	1837	3.26411	24	1867	3.27114	24
1808	3.25720	24	1838	3.26435	23	1868	3.27138	23
1809	3.25744	24	1839	3.26458	24	1869	3.27161	23
1810	3.25768	24	1840	3.26482	23	1870	3.27184	23
1811	3.25792	24	1841	3.26505	24	1871	3.27207	24
1812	3.25816	24	1842	3.26529	24	1872	3.27231	23
1813	3.25840	24	1843	3.26553	23	1873	3.27254	23
1814	3.25864	24	1844	3.26576	24	1874	3.27277	23
1815	3.25888	24	1845	3.26600	23	1875	3.27300	23
1816	3.25912	23	1846	3.26623	24	1876	3.27323	23
1817	3.25935	24	1847	3.26647	23	1877	3.27346	24
1818	3.25959	24	1848	3.26670	24	1878	3.27370	23
1819	3.25983	24	1849	3.26694	23	1879	3.27393	23
1820	3.26007	24	1850	3.26717	24	1880	3.27416	23
1821	3.26031	24	1851	3.26741	23	1881	3.27439	23
1822	3.26055	24	1852	3.26764	24	1882	3.27462	23
1823	3.26079	23	1853	3.26788	23	1883	3.27485	23
1824	3.26102	24	1854	3.26811	23	1884	3.27508	23
1825	3.26126	24	1855	3.26834	24	1885	3.27531	23
1826	3.26150	24	1856	3.26858	23	1886	3.27554	23
1827	3.26174	24	1857	3.26881	24	1887	3.27577	23
1828	3.26198	23	1858	3.26905	23	1888	3.27600	23
1829	3.26221	24	1859	3.26928	23	1889	3.27623	23
1830	3.26245		1860	3.26951		1890	3.27646	

N.	0. 31′ 30″ Log.	D	N.	0. 32′ 0″ Log.	D.	N.	0. 32′ 30″ Log.	D.
1890	3.27646	23	1920	3.28330	23	1950	3.29003	23
1891	3.27669	23	1921	3.28353	22	1951	3.29026	22
1892	3.27692	23	1922	3.28375	23	1952	3.29048	22
1893	3.27715	23	1923	3.28398	23	1953	3.29070	22
1894	3.27738	23	1924	3.28421	22	1954	3.29092	23
1895	3.27761	23	1925	3.28443	23	1955	3.29115	22
1896	3.27784	23	1926	3.28466	22	1956	3.29137	22
1897	3.27807	23	1927	3.28488	23	1957	3.29159	22
1898	3.27830	22	1928	3.28511	22	1958	3.29181	22
1899	3.27852	23	1929	3.28533	23	1959	3.29203	23
1900	3.27875	23	1930	3.28556	22	1960	3.29226	22
1901	3.27898	23	1931	3.28578	23	1961	3.29248	22
1902	3.27921	23	1932	3.28601	22	1962	3.29270	22
1903	3.27944	23	1933	3.28623	23	1963	3.29292	22
1904	3.27967	22	1934	3.28646	22	1964	3.29314	22
1905	3.27989	23	1935	3.28668	23	1965	3.29336	22
1906	3.28012	23	1936	3.28691	22	1966	3.29358	22
1907	3.28035	23	1937	3.28713	22	1967	3.29380	23
1908	3.28058	23	1938	3.28735	23	1968	3.29403	22
1909	3.28081	22	1939	3.28758	22	1969	3.29425	22
1910	3.28103	23	1940	3.28780	23	1970	3.29447	22
1911	3.28126	23	1941	3.28803	22	1971	3.29469	22
1912	3.28149	22	1942	3.28825	22	1972	3.29491	22
1913	3.28171	23	1943	3.28847	23	1973	3.29513	22
1914	3.28194	23	1944	3.28870	22	1974	3.29535	22
1915	3.28217	23	1945	3.28892	22	1975	3.29557	22
1916	3.28240	22	1946	3.28914	23	1976	3.29579	22
1917	3.28262	23	1947	3.28937	22	1977	3.29601	22
1918	3.28285	22	1948	3.28959	22	1978	3.29623	22
1919	3.28307	23	1949	3.28981	22	1979	3.29645	22
1920	3.28330		1950	3.29003		1980	3.29667	

N.	0. 33′ 0″ Log.	D.	N.	0. 33′ 30″ Log.	D.	N.	0. 34′ 0″ Log.	D.
1980	3.29667	21	2010	3.30320	21	2040	3.30963	21
1981	3.29688	22	2011	3.30341	22	2041	3.30984	22
1982	3.29710	22	2012	3.30363	21	2042	3.31006	21
1983	3.29732	22	2013	3.30384	22	2043	3.31027	21
1984	3.29754	22	2014	3.30406	22	2044	3.31048	21
1985	3.29776	22	2015	3.30428	21	2045	3.31069	22
1986	3.29798	22	2016	3.30449	22	2046	3.31091	21
1987	3.29820	22	2017	3.30471	21	2047	3.31112	21
1988	3.29842	21	2018	3.30492	22	2048	3.31133	21
1989	3.29863	22	2019	3.30514	21	2049	3.31154	21
1990	3.29885	22	2020	3.30535	22	2050	3.31175	22
1991	3.29907	22	2021	3.30557	21	2051	3.31197	21
1992	3.29929	22	2022	3.30578	22	2052	3.31218	21
1993	3.29951	22	2023	3.30600	21	2053	3.31239	21
1994	3.29973	21	2024	3.30621	22	2054	3.31260	21
1995	3.29994	22	2025	3.30643	21	2055	3.31281	21
1996	3.30016	22	2026	3.30664	21	2056	3.31302	21
1997	3.30038	22	2027	3.30685	22	2057	3.31323	22
1998	3.30060	21	2028	3.30707	21	2058	3.31345	21
1999	3.30081	22	2029	3.30728	22	2059	3.31366	21
2000	3.30103	22	2030	3.30750	21	2060	3.31387	21
2001	3.30125	21	2031	3.30771	21	2061	3.31408	21
2002	3.30146	22	2032	3.30792	22	2062	3.31429	21
2003	3.30168	22	2033	3.30814	21	2063	3.31450	21
2004	3.30190	21	2034	3.30835	21	2064	3.31471	21
2005	3.30211	22	2035	3.30856	22	2065	3.31492	21
2006	3.30233	22	2036	3.30878	21	2066	3.31513	21
2007	3.30255	21	2037	3.30899	21	2067	3.31534	21
2008	3.30276	22	2038	3.30920	22	2068	3.31555	21
2009	3.30298	22	2039	3.30942	21	2069	3.31576	21
2010	3.30320		2040	3.30963		2070	3.31597	

N.	0. 34′ 30″ Log.	D.	N.	0. 35′ 0″ Log.	D.	N.	0. 35′ 30″ Log.	D.
2070	3.31597	21	2100	3.32222	21	2130	3.32838	20
2071	3.31618	21	2101	3.32243	20	2131	3.32858	21
2072	3.31639	21	2102	3.32263	21	2132	3.32879	20
2073	3.31660	21	2103	3.32284	21	2133	3.32899	20
2074	3.31681	21	2104	3.32305	20	2134	3.32919	21
2075	3.31702	21	2105	3.32325	21	2135	3.32940	20
2076	3.31723	21	2106	3.32346	20	2136	3.32960	20
2077	3.31744	21	2107	3.32366	21	2137	3.32980	21
2078	3.31765	20	2108	3.32387	21	2138	3.33001	20
2079	3.31785	21	2109	3.32408	20	2139	3.33021	20
2080	3.31806	21	2110	3.32428	21	2140	3.33041	21
2081	3.31827	21	2111	3.32449	20	2141	3.33062	20
2082	3.31848	21	2112	3.32469	21	2142	3.33082	20
2083	3.31869	21	2113	3.32490	20	2143	3.33102	20
2084	3.31890	21	2114	3.32510	21	2144	3.33122	21
2085	3.31911	20	2115	3.32531	21	2145	3.33143	20
2086	3.31931	21	2116	3.32552	20	2146	3.33163	20
2087	3.31952	21	2117	3.32572	21	2147	3.33183	20
2088	3.31973	21	2118	3.32593	20	2148	3.33203	21
2089	3.31994	21	2119	3.32613	21	2149	3.33224	20
2090	3.32015	20	2120	3.32634	20	2150	3.33244	20
2091	3.32035	21	2121	3.32654	21	2151	3.33264	20
2092	3.32056	21	2122	3.32675	20	2152	3.33284	20
2093	3.32077	21	2123	3.32695	20	2153	3.33304	21
2094	3.32098	20	2124	3.32715	21	2154	3.33325	20
2095	3.32118	21	2125	3.32736	20	2155	3.33345	20
2096	3.32139	21	2126	3.32756	21	2156	3.33365	20
2097	3.32160	21	2127	3.32777	20	2157	3.33385	20
2098	3.32181	20	2128	3.32797	21	2158	3.33405	20
2099	3.32201	21	2129	3.32818	20	2159	3.33425	20
2100	3.32222		2130	3.32838		2160	3.33445	

N.	0. 36′ 0″ Log.	D.	N.	0. 36′ 30″ Log.	D.	N.	0. 37′ 0″ Log.	D.
2160	3.33445	20	2190	3.34044	20	2220	3.34635	20
2161	3.33465	21	2191	3.34064	20	2221	3.34655	19
2162	3.33486	20	2192	3.34084	20	2222	3.34674	20
2163	3.33506	20	2193	3.34104	20	2223	3.34694	19
2164	3.33526	20	2194	3.34124	19	2224	3.34713	20
2165	3.33546	20	2195	3.34143	20	2225	3.34733	20
2166	3.33566	20	2196	3.34163	20	2226	3.34753	19
2167	3.33586	20	2197	3.34183	20	2227	3.34772	20
2168	3.33606	20	2198	3.34203	20	2228	3.34792	19
2169	3.33626	20	2199	3.34223	19	2229	3.34811	19
2170	3.33646	20	2200	3.34242	20	2230	3.34830	20
2171	3.33666	20	2201	3.34262	20	2231	3.34850	19
2172	3.33686	20	2202	3.34282	19	2232	3.34869	20
2173	3.33706	20	2203	3.34301	20	2233	3.34889	19
2174	3.33726	20	2204	3.34321	20	2234	3.34908	20
2175	3.33746	20	2205	3.34341	20	2235	3.34928	19
2176	3.33766	20	2206	3.34361	19	2236	3.34947	20
2177	3.33786	20	2207	3.34380	20	2237	3.34967	19
2178	3.33806	20	2208	3.34400	20	2238	3.34986	19
2179	3.33826	20	2209	3.34420	19	2239	3.35005	20
2180	3.33846	20	2210	3.34439	20	2240	3.35025	19
2181	3.33866	19	2211	3.34459	20	2241	3.35044	20
2182	3.33885	20	2212	3.34479	19	2242	3.35064	19
2183	3.33905	20	2213	3.34498	20	2243	3.35083	19
2184	3.33925	20	2214	3.34518	19	2244	3.35102	20
2185	3.33945	20	2215	3.34537	20	2245	3.35122	19
2186	3.33965	20	2216	3.34557	20	2246	3.35141	19
2187	3.33985	20	2217	3.34577	19	2247	3.35160	20
2188	3.34005	20	2218	3.34596	20	2248	3.35180	19
2189	3.34025	19	2219	3.34616	19	2249	3.35199	19
2190	3.34044		2220	3.34635		2250	3.35218	

N.	0. 37′ 30″ Log.	D.	N.	0. 38′ 0″ Log.	D.	N.	0. 38′ 30″ Log.	D.
2250	3.35218	20	2280	3.35793	20	2310	3.36361	19
2251	3.35238	19	2281	3.35813	19	2311	3.36380	19
2252	3.35257	19	2282	3.35832	19	2312	3.36399	19
2253	3.35276	19	2283	3.35851	19	2313	3.36418	18
2254	3.35295	20	2284	3.35870	19	2314	3.36436	19
2255	3.35315	19	2285	3.35889	19	2315	3.36455	19
2256	3.35334	19	2286	3.35908	19	2316	3.36474	19
2257	3.35353	19	2287	3.35927	19	2317	3.36493	18
2258	3.35372	20	2288	3.35946	19	2318	3.36511	19
2259	3.35392	19	2289	3.35965	19	2319	3.36530	19
2260	3.35411	19	2290	3.35984	19	2320	3.36549	19
2261	3.35430	19	2291	3.36003	18	2321	3.36568	18
2262	3.35449	19	2292	3.36021	19	2322	3.36586	19
2263	3.35468	20	2293	3.36040	19	2323	3.36605	19
2264	3.35488	19	2294	3.36059	19	2324	3.36624	18
2265	3.35507	19	2295	3.36078	19	2325	3.36642	19
2266	3.35526	19	2296	3.36097	19	2326	3.36661	19
2267	3.35545	19	2297	3.36116	19	2327	3.36680	18
2268	3.35564	19	2298	3.36135	19	2328	3.36698	19
2269	3.35583	20	2299	3.36154	19	2329	3.36717	19
2270	3.35603	19	2300	3.36173	19	2330	3.36736	18
2271	3.35622	19	2301	3.36192	19	2331	3.36754	19
2272	3.35641	19	2302	3.36211	18	2332	3.36773	18
2273	3.35660	19	2303	3.36229	19	2333	3.36791	19
2274	3.35679	19	2304	3.36248	19	2334	3.36810	19
2275	3.35698	19	2305	3.36267	19	2335	3.36829	18
2276	3.35717	19	2306	3.36286	19	2336	3.36847	19
2277	3.35736	19	2307	3.36305	19	2337	3.36866	18
2278	3.35755	19	2308	3.36324	18	2338	3.36884	19
2279	3.35774	19	2309	3.36342	19	2339	3.36903	19
2280	3.35793		2310	3.36361		2340	3.36922	

N.	0. 39′ 0″ Log.	D.	N.	0. 39′ 30″ Log.	D.	N.	0. 40′ 0″ Log.	D.
2340	3.36922	18	2370	3.37475	18	2400	3.38021	18
2341	3.36940	19	2371	3.37493	18	2401	3.38039	18
2342	3.36959	18	2372	3.37511	19	2402	3.38057	18
2343	3.36977	19	2373	3.37530	18	2403	3.38075	18
2344	3.36996	18	2374	3.37548	18	2404	3.38093	19
2345	3.37014	19	2375	3.37566	19	2405	3.38112	18
2346	3.37033	18	2376	3.37585	18	2406	3.38130	18
2347	3.37051	19	2377	3.37603	18	2407	3.38148	18
2348	3.37070	18	2378	3.37621	18	2408	3.38166	18
2349	3.37088	19	2379	3.37639	19	2409	3.38184	18
2350	3.37107	18	2380	3.37658	18	2410	3.38202	18
2351	3.37125	19	2381	3.37676	18	2411	3.38220	18
2352	3.37144	18	2382	3.37694	18	2412	3.38238	18
2353	3.37162	19	2383	3.37712	19	2413	3.38256	18
2354	3.37181	18	2384	3.37731	18	2414	3.38274	18
2355	3.37199	19	2385	3.37749	18	2415	3.38292	18
2356	3.37218	18	2386	3.37767	18	2416	3.38310	18
2357	3.37236	18	2387	3.37785	18	2417	3.38328	18
2358	3.37254	19	2388	3.37803	19	2418	3.38346	18
2359	3.37273	18	2389	3.37822	18	2419	3.38364	18
2360	3.37291	19	2390	3.37840	18	2420	3.38382	17
2361	3.37310	18	2391	3.37858	18	2421	3.38399	18
2362	3.37328	18	2392	3.37876	18	2422	3.38417	18
2363	3.37346	19	2393	3.37894	18	2423	3.38435	18
2364	3.37365	18	2394	3.37912	19	2424	3.38453	18
2365	3.37383	18	2395	3.37931	18	2425	3.38471	18
2366	3.37401	19	2396	3.37949	18	2426	3.38489	18
2367	3.37420	18	2397	3.37967	18	2427	3.38507	18
2368	3.37438	19	2398	3.37985	18	2428	3.38525	18
2369	3.37457	18	2399	3.38003	18	2429	3.38543	18
2370	3.37475		2400	3.38021		2430	3.38561	

N.	0. 40′ 30″ Log.	D.	N.	0. 41′ 0″ Log.	D.	N.	0. 41′ 30″ Log.	D.
2430	3.38561	17	2460	3.39094	17	2490	3.39620	17
2431	3.38578	18	2461	3.39111	18	2491	3.39637	18
2432	3.38596	18	2462	3.39129	17	2492	3.39655	17
2433	3.38614	18	2463	3.39146	18	2493	3.39672	18
2434	3.38632	18	2464	3.39164	18	2494	3.39690	17
2435	3.38650	18	2465	3.39182	17	2495	3.39707	17
2436	3.38668	18	2466	3.39199	18	2496	3.39724	18
2437	3.38686	17	2467	3.39217	18	2497	3.39742	17
2438	3.38703	18	2468	3.39235	17	2498	3.39759	18
2439	3.38721	18	2469	3.39252	18	2499	3.39777	17
2440	3.38739	18	2470	3.39270	17	2500	3.39794	17
2441	3.38757	18	2471	3.39287	18	2501	3.39811	18
2442	3.38775	17	2472	3.39305	17	2502	3.39829	17
2443	3.38792	18	2473	3.39322	18	2503	3.39846	17
2444	3.38810	18	2474	3.39340	18	2504	3.39863	18
2445	3.38828	18	2475	3.39358	17	2505	3.39881	17
2446	3.38846	17	2476	3.39375	18	2506	3.39898	17
2447	3.38863	18	2477	3.39393	17	2507	3.39915	18
2448	3.38881	18	2478	3.39410	18	2508	3.39933	17
2449	3.38899	18	2479	3.39428	17	2509	3.39950	17
2450	3.38917	17	2480	3.39445	18	2510	3.39967	18
2451	3.38934	18	2481	3.39463	17	2511	3.39985	17
2452	3.38952	18	2482	3.39480	18	2512	3.40002	17
2453	3.38970	17	2483	3.39498	17	2513	3.40019	18
2454	3.38987	18	2484	3.39515	18	2514	3.40037	17
2455	3.39005	18	2485	3.39533	17	2515	3.40054	17
2456	3.39023	18	2486	3.39550	18	2516	3.40071	17
2457	3.39041	17	2487	3.39568	17	2517	3.40088	18
2458	3.39058	18	2488	3.39585	17	2518	3.40106	17
2459	3.39076	18	2489	3.39602	18	2519	3.40123	17
2460	3.39094		2490	3.39620		2520	3.40140	

N.	0. 42′ 0″ Log.	D.	N.	0. 42′ 30″ Log.	D.	N.	0. 43′ 0″ Log.	D.
2520	3.40140	17	2550	3.40654	17	2580	3.41162	17
2521	3.40157	18	2551	3.40671	17	2581	3.41179	17
2522	3.40175	17	2552	3.40688	17	2582	3.41196	16
2523	3.40192	17	2553	3.40705	17	2583	3.41212	17
2524	3.40209	17	2554	3.40722	17	2584	3.41229	17
2525	3.40226	17	2555	3.40739	17	2585	3.41246	17
2526	3.40243	18	2556	3.40756	17	2586	3.41263	17
2527	3.40261	17	2557	3.40773	17	2587	3.41280	16
2528	3.40278	17	2558	3.40790	17	2588	3.41296	17
2529	3.40295	17	2559	3.40807	17	2589	3.41313	17
2530	3.40312	17	2560	3.40824	17	2590	3.41330	17
2531	3.40329	17	2561	3.40841	17	2591	3.41347	16
2532	3.40346	18	2562	3.40858	17	2592	3.41363	17
2533	3.40364	17	2563	3.40875	17	2593	3.41380	17
2534	3.40381	17	2564	3.40892	17	2594	3.41397	17
2535	3.40398	17	2565	3.40909	17	2595	3.41414	16
2536	3.40415	17	2566	3.40926	17	2596	3.41430	17
2537	3.40432	17	2567	3.40943	17	2597	3.41447	17
2538	3.40449	17	2568	3.40960	16	2598	3.41464	17
2539	3.40466	17	2569	3.40976	17	2599	3.41481	16
2540	3.40483	17	2570	3.40993	17	2600	3.41497	17
2541	3.40500	18	2571	3.41010	17	2601	3.41514	17
2542	3.40518	17	2572	3.41027	17	2602	3.41531	16
2543	3.40535	17	2573	3.41044	17	2603	3.41547	17
2544	3.40552	17	2574	3.41061	17	2604	3.41564	17
2545	3.40569	17	2575	3.41078	17	2605	3.41581	16
2546	3.40586	17	2576	3.41095	16	2606	3.41597	17
2547	3.40603	17	2577	3.41111	17	2607	3.41614	17
2548	3.40620	17	2578	3.41128	17	2608	3.41631	16
2549	3.40637	17	2579	3.41145	17	2609	3.41647	17
2550	3.40654		2580	3.41162		2610	3.41664	

N.	0. 43' 30" Log.	D.	N.	0. 44' 0" Log.	D.	N.	0. 44' 30" Log.	D.
2610	3.41664	17	2640	3.42160	17	2670	3.42651	16
2611	3.41681	16	2641	3.42177	16	2671	3.42667	17
2612	3.41697	17	2642	3.42193	17	2672	3.42684	16
2613	3.41714	17	2643	3.42210	16	2673	3.42700	16
2614	3.41731	16	2644	3.42226	17	2674	3.42716	16
2615	3.41747	17	2645	3.42243	16	2675	3.42732	17
2616	3.41764	16	2646	3.42259	16	2676	3.42749	16
2617	3.41780	17	2647	3.42275	17	2677	3.42765	16
2618	3.41797	17	2648	3.42292	16	2678	3.42781	16
2619	3.41814	16	2649	3.42308	17	2679	3.42797	16
2620	3.41830	17	2650	3.42325	16	2680	3.42813	17
2621	3.41847	16	2651	3.42341	16	2681	3.42830	16
2622	3.41863	17	2652	3.42357	17	2682	3.42846	16
2623	3.41880	16	2653	3.42374	16	2683	3.42862	16
2624	3.41896	17	2654	3.42390	16	2684	3.42878	16
2625	3.41913	16	2655	3.42406	17	2685	3.42894	17
2626	3.41929	17	2656	3.42423	16	2686	3.42911	16
2627	3.41946	17	2657	3.42439	16	2687	3.42927	16
2628	3.41963	16	2658	3.42455	17	2688	3.42943	16
2629	3.41979	17	2659	3.42472	16	2689	3.42959	16
2630	3.41996	16	2660	3.42488	16	2690	3.42975	16
2631	3.42012	17	2661	3.42504	17	2691	3.42991	17
2632	3.42029	16	2662	3.42521	16	2692	3.43008	16
2633	3.42045	17	2663	3.42537	16	2693	3.43024	16
2634	3.42062	16	2664	3.42553	17	2694	3.43040	16
2635	3.42078	17	2665	3.42570	16	2695	3.43056	16
2636	3.42095	16	2666	3.42586	16	2696	3.43072	16
2637	3.42111	16	2667	3.42602	17	2697	3.43088	16
2638	3.42127	17	2668	3.42619	16	2698	3.43104	16
2639	3.42144	16	2669	3.42635	16	2699	3.43120	16
2640	3.42160		2670	3.42651		2700	3.43136	

N.	0. 45′ 0″ Log.	D.	N.	0. 45′ 30″ Log.	D.	N.	0. 46′ 0″ Log.	D.
2700	3.43136	16	2730	3.43616	16	2760	3.44091	16
2701	3.43152	17	2731	3.43632	16	2761	3.44107	15
2702	3.43169	16	2732	3.43648	16	2762	3.44122	16
2703	3.43185	16	2733	3.43664	16	2763	3.44138	16
2704	3.43201	16	2734	3.43680	16	2764	3.44154	16
2705	3.43217	16	2735	3.43696	16	2765	3.44170	15
2706	3.43233	16	2736	3.43712	15	2766	3.44185	16
2707	3.43249	16	2737	3.43727	16	2767	3.44201	16
2708	3.43265	16	2738	3.43743	16	2768	3.44217	15
2709	3.43281	16	2739	3.43759	16	2769	3.44232	16
2710	3.43297	16	2740	3.43775	16	2770	3.44248	16
2711	3.43313	16	2741	3.43791	16	2771	3.44264	15
2712	3.43329	16	2742	3.43807	16	2772	3.44279	16
2713	3.43345	16	2743	3.43823	15	2773	3.44295	16
2714	3.43361	16	2744	3.43838	16	2774	3.44311	15
2715	3.43377	16	2745	3.43854	16	2775	3.44326	16
2716	3.43393	16	2746	3.43870	16	2776	3.44342	16
2717	3.43409	16	2747	3.43886	16	2777	3.44358	15
2718	3.43425	16	2748	3.43902	15	2778	3.44373	16
2719	3.43441	16	2749	3.43917	16	2779	3.44389	15
2720	3.43457	16	2750	3.43933	16	2780	3.44404	16
2721	3.43473	16	2751	3.43949	16	2781	3.44420	16
2722	3.43489	16	2752	3.43965	16	2782	3.44436	15
2723	3.43505	16	2753	3.43981	15	2783	3.44451	16
2724	3.43521	16	2754	3.43996	16	2784	3.44467	16
2725	3.43537	16	2755	3.44012	16	2785	3.44483	15
2726	3.43553	16	2756	3.44028	16	2786	3.44498	16
2727	3.43569	15	2757	3.44044	15	2787	3.44514	15
2728	3.43584	16	2758	3.44059	16	2788	3.44529	16
2729	3.43600	16	2759	3.44075	16	2789	3.44545	15
2730	3.43616		2760	3.44091		2790	3.44560	

N.	0. 46′ 30″ Log.	D.
2790	3.44560	16
2791	3.44576	16
2792	3.44592	15
2793	3.44607	16
2794	3.44623	15
2795	3.44638	16
2796	3.44654	15
2797	3.44669	16
2798	3.44685	15
2799	3.44700	16
2800	3.44716	15
2801	3.44731	16
2802	3.44747	15
2803	3.44762	16
2804	3.44778	15
2805	3.44793	16
2806	3.44809	15
2807	3.44824	16
2808	3.44840	15
2809	3.44855	16
2810	3.44871	15
2811	3.44886	16
2812	3.44902	15
2813	3.44917	15
2814	3.44932	16
2815	3.44948	15
2816	3.44963	16
2817	3.44979	15
2818	3.44994	16
2819	3.45010	15
2820	3.45025	

N.	0. 47′ 0″ Log.	D.
2820	3.45025	15
2821	3.45040	16
2822	3.45056	15
2823	3.45071	15
2824	3.45086	16
2825	3.45102	15
2826	3.45117	16
2827	3.45133	15
2828	3.45148	15
2829	3.45163	16
2830	3.45179	15
2831	3.45194	15
2832	3.45209	16
2833	3.45225	15
2834	3.45240	15
2835	3.45255	16
2836	3.45271	15
2837	3.45286	15
2838	3.45301	16
2839	3.45317	15
2840	3.45332	15
2841	3.45347	15
2842	3.45362	16
2843	3.45378	15
2844	3.45393	15
2845	3.45408	15
2846	3.45423	16
2847	3.45439	15
2848	3.45454	15
2849	3.45469	15
2850	3.45484	

N.	0. 47′ 30″ Log.	D.
2850	3.45484	16
2851	3.45500	15
2852	3.45515	15
2853	3.45530	15
2854	3.45545	16
2855	3.45561	15
2856	3.45576	15
2857	3.45591	15
2858	3.45606	15
2859	3.45621	16
2860	3.45637	15
2861	3.45652	15
2862	3.45667	15
2863	3.45682	15
2864	3.45697	15
2865	3.45712	16
2866	3.45728	15
2867	3.45743	15
2868	3.45758	15
2869	3.45773	15
2870	3.45788	15
2871	3.45803	15
2872	3.45818	16
2873	3.45834	15
2874	3.45849	15
2875	3.45864	15
2876	3.45879	15
2877	3.45894	15
2878	3.45909	15
2879	3.45924	15
2880	3.45939	

N.	0. 48′ 0″ Log.	D.	N.	0. 48′ 30″ Log.	D.	N.	0. 49′ 0″ Log.	D.
2880	3.45939	15	2910	3.46389	15	2940	3.46835	15
2881	3.45954	15	2911	3.46404	15	2941	3.46850	14
2882	3.45969	15	2912	3.46419	15	2942	3.46864	15
2883	3.45984	16	2913	3.46434	15	2943	3.46879	15
2884	3.46000	15	2914	3.46449	15	2944	3.46894	15
2885	3.46015	15	2915	3.46464	15	2945	3.46909	14
2886	3.46030	15	2916	3.46479	15	2946	3.46923	15
2887	3.46045	15	2917	3.46494	15	2947	3.46938	15
2888	3.46060	15	2918	3.46509	14	2948	3.46953	14
2889	3.46075	15	2919	3.46523	15	2949	3.46967	15
2890	3.46090	15	2920	3.46538	15	2950	3.46982	15
2891	3.46105	15	2921	3.46553	15	2951	3.46997	15
2892	3.46120	15	2922	3.46568	15	2952	3.47012	14
2893	3.46135	15	2923	3.46583	15	2953	3.47026	15
2894	3.46150	15	2924	3.46598	15	2954	3.47041	15
2895	3.46165	15	2925	3.46613	14	2955	3.47056	14
2896	3.46180	15	2926	3.46627	15	2956	3.47070	15
2897	3.46195	15	2927	3.46642	15	2957	3.47085	15
2898	3.46210	15	2928	3.46657	15	2958	3.47100	14
2899	3.46225	15	2929	3.46672	15	2959	3.47114	15
2900	3.46240	15	2930	3.46687	15	2960	3.47129	15
2901	3.46255	15	2931	3.46702	14	2961	3.47144	15
2902	3.46270	15	2932	3.46716	15	2962	3.47159	14
2903	3.46285	15	2933	3.46731	15	2963	3.47173	15
2904	3.46300	15	2934	3.46746	15	2964	3.47188	14
2905	3.46315	15	2935	3.46761	15	2965	3.47202	15
2906	3.46330	15	2936	3.46776	14	2966	3.47217	15
2907	3.46345	14	2937	3.46790	15	2967	3.47232	14
2908	3.46359	15	2938	3.46805	15	2968	3.47246	15
2909	3.46374	15	2939	3.46820	15	2969	3.47261	15
2910	3.46389		2940	3.46835		2970	3.47276	

N.	0.49′ 30″ Log.	D.	N.	0. 50′ 0″ Log.	D.	N.	0.50′ 30″ Log.	D.
2970	3.47276	14	3000	3.47712	15	3030	3.48144	15
2971	3.47290	15	3001	3.47727	14	3031	3.48159	14
2972	3.47305	14	3002	3.47741	15	3032	3.48173	14
2973	3.47319	15	3003	3.47756	14	3033	3.48187	15
2974	3.47334	15	3004	3.47770	14	3034	3.48202	14
2975	3.47349	14	3005	3.47784	15	3035	3.48216	14
2976	3.47363	15	3006	3.47799	14	3036	3.48230	14
2977	3.47378	14	3007	3.47813	15	3037	3.48244	15
2978	3.47392	15	3008	3.47828	14	3038	3.48259	14
2979	3.47407	15	3009	3.47842	15	3039	3.48273	14
2980	3.47422	14	3010	3.47857	14	3040	3.48287	15
2981	3.47436	15	3011	3.47871	14	3041	3.48302	14
2982	3.47451	14	3012	3.47885	15	3042	3.48316	14
2983	3.47465	15	3013	3.47900	14	3043	3.48330	14
2984	3.47480	14	3014	3.47914	15	3044	3.48344	15
2985	3.47494	15	3015	3.47929	14	3045	3.48359	14
2986	3.47509	15	3016	3.47943	15	3046	3.48373	14
2987	3.47524	14	3017	3.47958	14	3047	3.48387	14
2988	3.47538	15	3018	3.47972	14	3048	3.48401	15
2989	3.47553	14	3019	3.47986	15	3049	3.48416	14
2990	3.47567	15	3020	3.48001	14	3050	3.48430	14
2991	3.47582	14	3021	3.48015	14	3051	3.48444	14
2992	3.47596	15	3022	3.48029	15	3052	3.48458	15
2993	3.47611	14	3023	3.48044	14	3053	3.48473	14
2994	3.47625	15	3024	3.48058	15	3054	3.48487	14
2995	3.47640	14	3025	3.4807[illegible]	14	3055	3.48501	14
2996	3.47654	15	3026	3.48087	14	3056	3.48515	15
2997	3.47669	14	3027	3.48101	15	3057	3.48530	14
2998	3.47683	15	3028	3.48116	14	3058	3.48544	14
2999	3.47698	14	3029	3.48130	14	3059	3.48558	14
3000	3.47712		3030	3.48144		3060	3.48572	

N.	0. 51′ 0″ Log.	D.	N.	0. 51′ 30″ Log.	D.	N.	0. 52′ 0 Log.	D.
3060	3.48572	14	3090	3.48996	14	3120	3.49415	14
3061	3.48586	15	3091	3.49010	14	3121	3.49429	14
3062	3.48601	14	3092	3.49024	14	3122	3.49443	14
3063	3.48615	14	3093	3.49038	14	3123	3.49457	14
3064	3.48629	14	3094	3.49052	14	3124	3.49471	14
3065	3.48643	14	3095	3.49066	14	3125	3.49485	14
3066	3.48657	14	3096	3.49080	14	3126	3.49499	14
3067	3.48671	15	3097	3.49094	14	3127	3.49513	14
3068	3.48686	14	3098	3.49108	14	3128	3.49527	14
3069	3.48700	14	3099	3.49122	14	3129	3.49541	13
3070	3.48714	14	3100	3.49136	14	3130	3.49554	14
3071	3.48728	14	3101	3.49150	14	3131	3.49568	14
3072	3.48742	14	3102	3.49164	14	3132	3.49582	14
3073	3.48756	14	3103	3.49178	14	3133	3.49596	14
3074	3.48770	15	3104	3.49192	14	3134	3.49610	14
3075	3.48785	14	3105	3.49206	14	3135	3.49624	14
3076	3.48799	14	3106	3.49220	14	3136	3.49638	13
3077	3.48813	14	3107	3.49234	14	3137	3.49651	14
3078	3.48827	14	3108	3.49248	14	3138	3.49665	14
3079	3.48841	14	3109	3.49262	14	3139	3.49679	14
3080	3.48855	14	3110	3.49276	14	3140	3.49693	14
3081	3.48869	14	3111	3.49290	14	3141	3.49707	14
3082	3.48883	14	3112	3.49304	14	3142	3.49721	13
3083	3.48897	14	3113	3.49318	14	3143	3.49734	14
3084	3.48911	15	3114	3.49332	14	3144	3.49748	14
3085	3.48926	14	3115	3.49346	14	3145	3.49762	14
3086	3.48940	14	3116	3.49360	14	3146	3.49776	14
3087	3.48954	14	3117	3.49374	14	3147	3.49790	13
3088	3.48968	14	3118	3.49388	14	3148	3.49803	14
3089	3.48982	14	3119	3.49402	13	3149	3.49817	14
3090	3.48996		3120	3.49415		3150	3.49831	

N.	0. 52′ 30″ Log.	D.	N.	0. 53′ 0″ Log.	D.	N.	0. 53′ 30″ Log.	D.
3150	3.49831	14	3180	3.50243	13	3210	3.50651	13
3151	3.49845	14	3181	3.50256	14	3211	3.50664	14
3152	3.49859	13	3182	3.50270	14	3212	3.50678	13
3153	3.49872	14	3183	3.50284	13	3213	3.50691	14
3154	3.49886	14	3184	3.50297	14	3214	3.50705	13
3155	3.49900	14	3185	3.50311	14	3215	3.50718	14
3156	3.49914	13	3186	3.50325	13	3216	3.50732	13
3157	3.49927	14	3187	3.50338	14	3217	3.50745	14
3158	3.49941	14	3188	3.50352	13	3218	3.50759	13
3159	3.49955	14	3189	3.50365	14	3219	3.50772	14
3160	3.49969	13	3190	3.50379	14	3220	3.50786	13
3161	3.49982	14	3191	3.50393	13	3221	3.50799	14
3162	3.49996	14	3192	3.50406	14	3222	3.50813	13
3163	3.50010	14	3193	3.50420	13	3223	3.50826	14
3164	3.50024	13	3194	3.50433	14	3224	3.50840	13
3165	3.50037	14	3195	3.50447	14	3225	3.50853	13
3166	3.50051	14	3196	3.50461	13	3226	3.50866	14
3167	3.50065	14	3197	3.50474	14	3227	3.50880	13
3168	3.50079	13	3198	3.50488	13	3228	3.50893	14
3169	3.50092	14	3199	3.50501	14	3229	3.50907	13
3170	3.50106	14	3200	3.50515	14	3230	3.50920	14
3171	3.50120	13	3201	3.50529	13	3231	3.50934	13
3172	3.50133	14	3202	3.50542	14	3232	3.50947	14
3173	3.50147	14	3203	3.50556	13	3233	3.50961	13
3174	3.50161	13	3204	3.50569	14	3234	3.50974	13
3175	3.50174	14	3205	3.50583	13	3235	3.50987	14
3176	3.50188	14	3206	3.50596	14	3236	3.51001	13
3177	3.50202	13	3207	3.50610	13	3237	3.51014	14
3178	3.50215	14	3208	3.50623	14	3238	3.51028	13
3179	3.50229	14	3209	3.50637	14	3239	3.51041	14
3180	3.50243		3210	3.50651		3240	3.51055	

N.	0. 54′ 0″ Log.	D.	N.	0. 54′ 30″ Log.	D.	N.	0. 55′ 0″ Log.	D.
3240	3.51055	13	3270	3.51455	13	3300	3.51851	14
3241	3.51068	13	3271	3.51468	13	3301	3.51865	13
3242	3.51081	14	3272	3.51481	14	3302	3.51878	13
3243	3.51095	13	3273	3.51495	13	3303	3.51891	13
3244	3.51108	13	3274	3.51508	13	3304	3.51904	13
3245	3.51121	14	3275	3.51521	13	3305	3.51917	13
3246	3.51135	13	3276	3.51534	14	3306	3.51930	13
3247	3.51148	14	3277	3.51548	13	3307	3.51943	14
3248	3.51162	13	3278	3.51561	13	3308	3.51957	13
3249	3.51175	13	3279	3.51574	13	3309	3.51970	13
3250	3.51188	14	3280	3.51587	14	3310	3.51983	13
3251	3.51202	13	3281	3.51601	13	3311	3.51996	13
3252	3.51215	13	3282	3.51614	13	3312	3.52009	13
3253	3.51228	14	3283	3.51627	13	3313	3.52022	13
3254	3.51242	13	3284	3.51640	14	3314	3.52035	13
3255	3.51255	13	3285	3.51654	13	3315	3.52048	13
3256	3.51268	14	3286	3.51667	13	3316	3.52061	14
3257	3.51282	13	3287	3.51680	13	3317	3.52075	13
3258	3.51295	13	3288	3.51693	13	3318	3.52088	13
3259	3.51308	14	3289	3.51706	14	3319	3.52101	13
3260	3.51322	13	3290	3.51720	13	3320	3.52114	13
3261	3.51335	13	3291	3.51733	13	3321	3.52127	13
3262	3.51348	14	3292	3.51746	13	3322	3.52140	13
3263	3.51362	13	3293	3.51759	13	3323	3.52153	13
3264	3.51375	13	3294	3.51772	14	3324	3.52166	13
3265	3.51388	14	3295	3.51786	13	3325	3.52179	13
3266	3.51402	13	3296	3.51799	13	3326	3.52192	13
3267	3.51415	13	3297	3.51812	13	3327	3.52205	13
3268	3.51428	13	3298	3.51825	13	3328	3.52218	13
3269	3.51441	14	3299	3.51838	13	3329	3.52231	13
3270	3.51455		3300	3.51851		3330	3.52244	

N.	0.55′ 30″ Log.	D.	N.	0. 56′ 0″ Log.	D.	N.	0. 56′ 30″ Log.	D.
3330	3.52244	13	3360	3.52634	13	3390	3.53020	13
3331	3.52257	13	3361	3.52647	13	3391	3.53033	13
3332	3.52270	14	3362	3.52660	13	3392	3.53046	12
3333	3.52284	13	3363	3.52673	13	3393	3.53058	13
3334	3.52297	13	3364	3.52686	13	3394	3.53071	13
3335	3.52310	13	3365	3.52699	12	3395	3.53084	13
3336	3.52323	13	3366	3.52711	13	3396	3.53097	13
3337	3.52336	13	3367	3.52724	13	3397	3.53110	12
3338	3.52349	13	3368	3.52737	13	3398	3.53122	13
3339	3.52362	13	3369	3.52750	13	3399	3.53135	13
3340	3.52375	13	3370	3.52763	13	3400	3.53148	13
3341	3.52388	13	3371	3.52776	13	3401	3.53161	12
3342	3.52401	13	3372	3.52789	13	3402	3.53173	13
3343	3.52414	13	3373	3.52802	13	3403	3.53186	13
3344	3.52427	13	3374	3.52815	12	3404	3.53199	13
3345	3.52440	13	3375	3.52827	13	3405	3.53212	12
3346	3.52453	13	3376	3.52840	13	3406	3.53224	13
3347	3.52466	13	3377	3.52853	13	3407	3.53237	13
3348	3.52479	13	3378	3.52866	13	3408	3.53250	13
3349	3.52492	12	3379	3.52879	13	3409	3.53263	12
3350	3.52504	13	3380	3.52892	13	3410	3.53275	13
3351	3.52517	13	3381	3.52905	12	3411	3.53288	13
3352	3.52530	13	3382	3.52917	13	3412	3.53301	13
3353	3.52543	13	3383	3.52930	13	3413	3.53314	12
3354	3.52556	13	3384	3.52943	13	3414	3.53326	13
3355	3.52569	13	3385	3.52956	13	3415	3.53339	13
3356	3.52582	13	3386	3.52969	13	3416	3.53352	12
3357	3.52595	13	3387	3.52982	12	3417	3.53364	13
3358	3.52608	13	3388	3.52994	13	3418	3.53377	13
3359	3.52621	13	3389	3.53007	13	3419	3.53390	13
3360	3.52634		3390	3.53020		3420	3.53403	

N.	0. 57′ 0 Log.	D.	N.	0. 57′ 30″ Log.	D.	N.	0. 58′ 0″ Log.	D.
3420	3.53403	12	3450	3.53782	12	3480	3.54158	12
3421	3.53415	13	3451	3.53794	13	3481	3.54170	13
3422	3.53428	13	3452	3.53807	13	3482	3.54183	12
3423	3.53441	12	3453	3.53820	12	3483	3.54195	13
3424	3.53453	13	3454	3.53832	13	3484	3.54208	12
3425	3.53466	13	3455	3.53845	12	3485	3.54220	13
3426	3.53479	12	3456	3.53857	13	3486	3.54233	12
3427	3.53491	13	3457	3.53870	12	3487	3.54245	13
3428	3.53504	13	3458	3.53882	13	3488	3.54258	12
3429	3.53517	12	3459	3.53895	13	3489	3.54270	13
3430	3.53529	13	3460	3.53908	12	3490	3.54283	12
3431	3.53542	13	3461	3.53920	13	3491	3.54295	12
3432	3.53555	12	3462	3.53933	12	3492	3.54307	13
3433	3.53567	13	3463	3.53945	13	3493	3.54320	12
3434	3.53580	13	3464	3.53958	12	3494	3.54332	13
3435	3.53593	12	3465	3.53970	13	3495	3.54345	12
3436	3.53605	13	3466	3.53983	12	3496	3.54357	13
3437	3.53618	13	3467	3.53995	13	3497	3.54370	12
3438	3.53631	12	3468	3.54008	12	3498	3.54382	12
3439	3.53643	13	3469	3.54020	13	3499	3.54394	13
3440	3.53656	12	3470	3.54033	12	3500	3.54407	12
3441	3.53668	13	3471	3.54045	13	3501	3.54419	13
3442	3.53681	13	3472	3.54058	12	3502	3.54432	12
3443	3.53694	12	3473	3.54070	13	3503	3.54444	12
3444	3.53706	13	3474	3.54083	12	3504	3.54456	13
3445	3.53719	13	3475	3.54095	13	3505	3.54469	12
3446	3.53732	12	3476	3.54108	12	3506	3.54481	13
3447	3.53744	13	3477	3.54120	13	3507	3.54494	12
3448	3.53757	12	3478	3.54133	12	3508	3.54506	12
3449	3.53769	13	3479	3.54145	13	3509	3.54518	13
3450	3.53782		3480	3.54158		3510	3.54531	

N.	0. 58′ 30″ Log.	D.	N.	0. 59′ 0″ Log.	D.	N.	0. 59′ 30″ Log.	D.
3510	3.54531	12	3540	3.54900	13	3570	3.55267	12
3511	3.54543	12	3541	3.54913	12	3571	3.55279	12
3512	3.54555	13	3542	3.54925	12	3572	3.55291	12
3513	3.54568	12	3543	3.54937	12	3573	3.55303	12
3514	3.54580	13	3544	3.54949	13	3574	3.55315	13
3515	3.54593	12	3545	3.54962	12	3575	3.55328	12
3516	3.54605	12	3546	3.54974	12	3576	3.55340	12
3517	3.54617	13	3547	3.54986	12	3577	3.55352	12
3518	3.54630	12	3548	3.54998	13	3578	3.55364	12
3519	3.54642	12	3549	3.55011	12	3579	3.55376	12
3520	3.54654	13	3550	3.55023	12	3580	3.55388	12
3521	3.54667	12	3551	3.55035	12	3581	3.55400	13
3522	3.54679	12	3552	3.55047	13	3582	3.55413	12
3523	3.54691	13	3553	3.55060	12	3583	3.55425	12
3524	3.54704	12	3554	3.55072	12	3584	3.55437	12
3525	3.54716	12	3555	3.55084	12	3585	3.55449	12
3526	3.54728	13	3556	3.55096	12	3586	3.55461	12
3527	3.54741	12	3557	3.55108	13	3587	3.55473	12
3528	3.54753	12	3558	3.55121	12	3588	3.55485	12
3529	3.54765	12	3559	3.55133	12	3589	3.55497	12
3530	3.54777	13	3560	3.55145	12	3590	3.55509	13
3531	3.54790	12	3561	3.55157	12	3591	3.55522	12
3532	3.54802	12	3562	3.55169	13	3592	3.55534	12
3533	3.54814	13	3563	3.55182	12	3593	3.55546	12
3534	3.54827	12	3564	3.55194	12	3594	3.55558	12
3535	3.54839	12	3565	3.55206	12	3595	3.55570	12
3536	3.54851	13	3566	3.55218	12	3596	3.55582	12
3537	3.54864	12	3567	3.55230	12	3597	3.55594	12
3538	3.54876	12	3568	3.55242	13	3598	3.55606	12
3539	3.54888	12	3569	3.55255	12	3599	3.55618	12
3540	3.54900		3570	3.55267		3600	3.55630	

N.	1. 0′ 0″ Log.	D.	N.	1. 0′ 30″ Log.	D.	N.	1. 1′ 0″ Log.	D.
3600	3.55630	12	3630	3.55991	12	3660	3.56348	12
3601	3.55642	12	3631	3.56003	12	3661	3.56360	12
3602	3.55654	12	3632	3.56015	12	3662	3.56372	12
3603	3.55666	12	3633	3.56027	11	3663	3.56384	12
3604	3.55678	13	3634	3.56038	12	3664	3.56396	11
3605	3.55691	12	3635	3.56050	12	3665	3.56407	12
3606	3.55703	12	3636	3.56062	12	3666	3.56419	12
3607	3.55715	12	3637	3.56074	12	3667	3.56431	12
3608	3.55727	12	3638	3.56086	12	3668	3.56443	12
3609	3.55739	12	3639	3.56098	12	3669	3.56455	12
3610	3.55751	12	3640	3.56110	12	3670	3.56467	11
3611	3.55763	12	3641	3.56122	12	3671	3.56478	12
3612	3.55775	12	3642	3.56134	12	3672	3.56490	12
3613	3.55787	12	3643	3.56146	12	3673	3.56502	12
3614	3.55799	12	3644	3.56158	12	3674	3.56514	12
3615	3.55811	12	3645	3.56170	12	3675	3.56526	12
3616	3.55823	12	3646	3.56182	12	3676	3.56538	11
3617	3.55835	12	3647	3.56194	11	3677	3.56549	12
3618	3.55847	12	3648	3.56205	12	3678	3.56561	12
3619	3.55859	12	3649	3.56217	12	3679	3.56573	12
3620	3.55871	12	3650	3.56229	12	3680	3.56585	12
3621	3.55883	12	3651	3.56241	12	3681	3.56597	11
3622	3.55895	12	3652	3.56253	12	3682	3.56608	12
3623	3.55907	12	3653	3.56265	12	3683	3.56620	12
3624	3.55919	12	3654	3.56277	12	3684	3.56632	12
3625	3.55931	12	3655	3.56289	12	3685	3.56644	12
3626	3.55943	12	3656	3.56301	11	3686	3.56656	11
3627	3.55955	12	3657	3.56312	12	3687	3.56667	12
3628	3.55967	12	3658	3.56324	12	3688	3.56679	12
3629	3.55979	12	3659	3.56336	12	3689	3.56691	12
3630	3.55991		3660	3.56348		3690	3.56703	

N.	1. 1′ 30″ Log.	D.	N.	1. 2′ 0″ Log.	D.	N.	1. 2′ 30″ Log.	D.
3690	3.56703	11	3720	3.57054	12	3750	3.57403	12
3691	3.56714	12	3721	3.57066	12	3751	3.57415	11
3692	3.56726	12	3722	3.57078	11	3752	3.57426	12
3693	3.56738	12	3723	3.57089	12	3753	3.57438	11
3694	3.56750	11	3724	3.57101	12	3754	3.57449	12
3695	3.56761	12	3725	3.57113	11	3755	3.57461	12
3696	3.56773	12	3726	3.57124	12	3756	3.57473	11
3697	3.56785	12	3727	3.57136	12	3757	3.57484	12
3698	3.56797	11	3728	3.57148	11	3758	3.57496	11
3699	3.56808	12	3729	3.57159	12	3759	3.57507	12
3700	3.56820	12	3730	3.57171	12	3760	3.57519	11
3701	3.56832	12	3731	3.57183	11	3761	3.57530	12
3702	3.56844	11	3732	3.57194	12	3762	3.57542	11
3703	3.56855	12	3733	3.57206	11	3763	3.57553	12
3704	3.56867	12	3734	3.57217	12	3764	3.57565	11
3705	3.56879	12	3735	3.57229	12	3765	3.57576	12
3706	3.56891	11	3736	3.57241	11	3766	3.57588	12
3707	3.56902	12	3737	3.57252	12	3767	3.57600	11
3708	3.56914	12	3738	3.57264	12	3768	3.57611	12
3709	3.56926	11	3739	3.57276	11	3769	3.57623	11
3710	3.56937	12	3740	3.57287	12	3770	3.57634	12
3711	3.56949	12	3741	3.57299	11	3771	3.57646	11
3712	3.56961	11	3742	3.57310	12	3772	3.57657	12
3713	3.56972	12	3743	3.57322	12	3773	3.57669	11
3714	3.56984	12	3744	3.57334	11	3774	3.57680	12
3715	3.56996	12	3745	3.57345	12	3775	3.57692	11
3716	3.57008	11	3746	3.57357	11	3776	3.57703	12
3717	3.57019	12	3747	3.57368	12	3777	3.57715	11
3718	3.57031	12	3748	3.57380	12	3778	3.57726	12
3719	3.57043	11	3749	3.57392	11	3779	3.57738	11
3720	3.57054		3750	3.57403		3780	3.57749	

N.	1. 3′ 0″ Log.	D.	N.	1. 3′ 30″ Log.	D.	N.	1. 4′ 0″ Log.	D.
3780	3.57749	12	3810	3.58092	12	3840	3.58433	11
3781	3.57761	11	3811	3.58104	11	3841	3.58444	12
3782	3.57772	12	3812	3.58115	12	3842	3.58456	11
3783	3.57784	11	3813	3.58127	11	3843	3.58467	11
3784	3.57795	12	3814	3.58138	11	3844	3.58478	12
3785	3.57807	11	3815	3.58149	12	3845	3.58490	11
3786	3.57818	12	3816	3.58161	11	3846	3.58501	11
3787	3.57830	11	3817	3.58172	12	3847	3.58512	12
3788	3.57841	11	3818	3.58184	11	3848	3.58524	11
3789	3.57852	12	3819	3.58195	11	3849	3.58535	11
3790	3.57864	11	3820	3.58206	12	3850	3.58546	11
3791	3.57875	12	3821	3.58218	11	3851	3.58557	12
3792	3.57887	11	3822	3.58229	11	3852	3.58569	11
3793	3.57898	12	3823	3.58240	12	3853	3.58580	11
3794	3.57910	11	3824	3.58252	11	3854	3.58591	11
3795	3.57921	12	3825	3.58263	11	3855	3.58602	12
3796	3.57933	11	3826	3.58274	12	3856	3.58614	11
3797	3.57944	11	3827	3.58286	11	3857	3.58625	11
3798	3.57955	12	3828	3.58297	12	3858	3.58636	11
3799	3.57967	11	3829	3.58309	11	3859	3.58647	12
3800	3.57978	12	3830	3.58320	11	3860	3.58659	11
3801	3.57990	11	3831	3.58331	12	3861	3.58670	11
3802	3.58001	12	3832	3.58343	11	3862	3.58681	11
3803	3.58013	11	3833	3.58354	11	3863	3.58692	12
3804	3.58024	11	3834	3.58365	12	3864	3.58704	11
3805	3.58035	12	3835	3.58377	11	3865	3.58715	11
3806	3.58047	11	3836	3.58388	11	3866	3.58726	11
3807	3.58058	12	3837	3.58399	11	3867	3.58737	12
3808	3.58070	11	3838	3.58410	12	3868	3.58749	11
3809	3.58081	11	3839	3.58422	11	3869	3.58760	11
3810	3.58092		3840	3.58433		3870	3.58771	

N.	1. 4′ 30″ Log.	D.	N.	1. 5′ 0″ Log.	D.	N.	1. 5′ 30″ Log.	D.
3870	3.58771	11	3900	3.59106	12	3930	3.59439	11
3871	3.58782	12	3901	3.59118	11	3931	3.59450	11
3872	3.58794	11	3902	3.59129	11	3932	3.59461	11
3873	3.58805	11	3903	3.59140	11	3933	3.59472	11
3874	3.58816	11	3904	3.59151	11	3934	3.59483	11
3875	3.58827	11	3905	3.59162	11	3935	3.59494	12
3876	3.58838	12	3906	3.59173	11	3936	3.59506	11
3877	3.58850	11	3907	3.59184	11	3937	3.59517	11
3878	3.58861	11	3908	3.59195	12	3938	3.59528	11
3879	3.58872	11	3909	3.59207	11	3939	3.59539	11
3880	3.58883	11	3910	3.59218	11	3940	3.59550	11
3881	3.58894	12	3911	3.59229	11	3941	3.59561	11
3882	3.58906	11	3912	3.59240	11	3942	3.59572	11
3883	3.58917	11	3913	3.59251	11	3943	3.59583	11
3884	3.58928	11	3914	3.59262	11	3944	3.59594	11
3885	3.58939	11	3915	3.59273	11	3945	3.59605	11
3886	3.58950	11	3916	3.59284	11	3946	3.59616	11
3887	3.58961	12	3917	3.59295	11	3947	3.59627	11
3888	3.58973	11	3918	3.59306	12	3948	3.59638	11
3889	3.58984	11	3919	3.59318	11	3949	3.59649	11
3890	3.58995	11	3920	3.59329	11	3950	3.59660	11
3891	3.59006	11	3921	3.59340	11	3951	3.59671	11
3892	3.59017	11	3922	3.59351	11	3952	3.59682	11
3893	3.59028	12	3923	3.59362	11	3953	3.59693	11
3894	3.59040	11	3924	3.59373	11	3954	3.59704	11
3895	3.59051	11	3925	3.59384	11	3955	3.59715	11
3896	3.59062	11	3926	3.59395	11	3956	3.59726	11
3897	3.59073	11	3927	3.59406	11	3957	3.59737	11
3898	3.59084	11	3928	3.59417	11	3958	3.59748	11
3899	3.59095	11	3929	3.59428	11	3959	3.59759	11
3900	3.59106		3930	3.59439		3960	3.59770	

N.	1. 6′ 0″ Log.	D.	N.	1. 6′ 30″ Log.	D.	N.	1. 7′ 0″ Log.	D.
3960	3.59770	10	3990	3.60097	11	4020	3.60423	10
3961	3.59780	11	3991	3.60108	11	4021	3.60433	11
3962	3.59791	11	3992	3.60119	11	4022	3.60444	11
3963	3.59802	11	3993	3.60130	11	4023	3.60455	11
3964	3.59813	11	3994	3.60141	11	4024	3.60466	11
3965	3.59824	11	3995	3.60152	11	4025	3.60477	10
3966	3.59835	11	3996	3.60163	10	4026	3.60487	11
3967	3.59846	11	3997	3.60173	11	4027	3.60498	11
3968	3.59857	11	3998	3.60184	11	4028	3.60509	11
3969	3.59868	11	3999	3.60195	11	4029	3.60520	11
3970	3.59879	11	4000	3.60206	11	4030	3.60531	10
3971	3.59890	11	4001	3.60217	11	4031	3.60541	11
3972	3.59901	11	4002	3.60228	11	4032	3.60552	11
3973	3.59912	11	4003	3.60239	10	4033	3.60563	11
3974	3.59923	11	4004	3.60249	11	4034	3.60574	10
3975	3.59934	11	4005	3.60260	11	4035	3.60584	11
3976	3.59945	11	4006	3.60271	11	4036	3.60595	11
3977	3.59956	10	4007	3.60282	11	4037	3.60606	11
3978	3.59966	11	4008	3.60293	11	4038	3.60617	10
3979	3.59977	11	4009	3.60304	10	4039	3.60627	11
3980	3.59988	11	4010	3.60314	11	4040	3.60638	11
3981	3.59999	11	4011	3.60325	11	4041	3.60649	11
3982	3.60010	11	4012	3.60336	11	4042	3.60660	10
3983	3.60021	11	4013	3.60347	11	4043	3.60670	11
3984	3.60032	11	4014	3.60358	11	4044	3.60681	11
3985	3.60043	11	4015	3.60369	10	4045	3.60692	11
3986	3.60054	11	4016	3.60379	11	4046	3.60703	10
3987	3.60065	11	4017	3.60390	11	4047	3.60713	11
3988	3.60076	10	4018	3.60401	11	4048	3.60724	11
3989	3.60086	11	4019	3.60412	11	4049	3.60735	11
3990	3.60097		4020	3.60423		4050	3.60746	

N.	1. 7′ 30″ Log.	D.	N.	1. 8 0″ Log.	D.	N.	1. 8′ 30″ Log.	D.
4050	3.60746	10	4080	3.61066	11	4110	3.61384	11
4051	3.60756	11	4081	3.61077	10	4111	3.61395	10
4052	3.60767	11	4082	3.61087	11	4112	3.61405	11
4053	3.60778	10	4083	3.61098	11	4113	3.61416	10
4054	3.60788	11	4084	3.61109	10	4114	3.61426	11
4055	3.60799	11	4085	3.61119	11	4115	3.61437	11
4056	3.60810	11	4086	3.61130	10	4116	3.61448	10
4057	3.60821	10	4087	3.61140	11	4117	3.61458	11
4058	3.60831	11	4088	3.61151	11	4118	3.61469	10
4059	3.60842	11	4089	3.61162	10	4119	3.61479	11
4060	3.60853	10	4090	3.61172	11	4120	3.61490	10
4061	3.60863	11	4091	3.61183	11	4121	3.61500	11
4062	3.60874	11	4092	3.61194	10	4122	3.61511	10
4063	3.60885	10	4093	3.61204	11	4123	3.61521	11
4064	3.60895	11	4094	3.61215	10	4124	3.61532	10
4065	3.60906	11	4095	3.61225	11	4125	3.61542	11
4066	3.60917	10	4096	3.61236	11	4126	3.61553	10
4067	3.60927	11	4097	3.61247	10	4127	3.61563	11
4068	3.60938	11	4098	3.61257	11	4128	3.61574	10
4069	3.60949	10	4099	3.61268	10	4129	3.61584	11
4070	3.60959	11	4100	3.61278	11	4130	3.61595	11
4071	3.60970	11	4101	3.61289	11	4131	3.61606	10
4072	3.60981	10	4102	3.61300	10	4132	3.61616	11
4073	3.60991	11	4103	3.61310	11	4133	3.61627	10
4074	3.61002	11	4104	3.61321	10	4134	3.61637	11
4075	3.61013	10	4105	3.61331	11	4135	3.61648	10
4076	3.61023	11	4106	3.61342	10	4136	3.61658	11
4077	3.61034	11	4107	3.61352	11	4137	3.61669	10
4078	3.61045	10	4108	3.61363	11	4138	3.61679	11
4079	3.61055	11	4109	3.61374	10	4139	3.61690	10
4080	3.61066		4110	3.61384		4140	3.61700	

N.	1. 9′ 0″ Log.	D.	N.	1. 9′ 30″ Log.	D.	N.	1. 10′ 0″ Log.	D.
4140	3.61700	11	4170	3.62014	10	4200	3.62325	10
4141	3.61711	10	4171	3.62024	10	4201	3.62335	11
4142	3.61721	10	4172	3.62034	11	4202	3.62346	10
4143	3.61731	11	4173	3.62045	10	4203	3.62356	10
4144	3.61742	10	4174	3.62055	11	4204	3.62366	11
4145	3.61752	11	4175	3.62066	10	4205	3.62377	10
4146	3.61763	10	4176	3.62076	10	4206	3.62387	10
4147	3.61773	11	4177	3.62086	11	4207	3.62397	11
4148	3.61784	10	4178	3.62097	10	4208	3.62408	10
4149	3.61794	11	4179	3.62107	11	4209	3.62418	10
4150	3.61805	10	4180	3.62118	10	4210	3.62428	11
4151	3.61815	11	4181	3.62128	10	4211	3.62439	10
4152	3.61826	10	4182	3.62138	11	4212	3.62449	10
4153	3.61836	11	4183	3.62149	10	4213	3.62459	10
4154	3.61847	10	4184	3.62159	11	4214	3.62469	11
4155	3.61857	11	4185	3.62170	10	4215	3.62480	10
4156	3.61868	10	4186	3.62180	10	4216	3.62490	10
4157	3.61878	10	4187	3.62190	11	4217	3.62500	11
4158	3.61888	11	4188	3.62201	10	4218	3.62511	10
4159	3.61899	10	4189	3.62211	10	4219	3.62521	10
4160	3.61909	11	4190	3.62221	11	4220	3.62531	11
4161	3.61920	10	4191	3.62232	10	4221	3.62542	10
4162	3.61930	11	4192	3.62242	10	4222	3.62552	10
4163	3.61941	10	4193	3.62252	11	4223	3.62562	10
4164	3.61951	11	4194	3.62263	10	4224	3.62572	11
4165	3.61962	10	4195	3.62273	11	4225	3.62583	10
4166	3.61972	10	4196	3.62284	10	4226	3.62593	10
4167	3.61982	11	4197	3.62294	10	4227	3.62603	10
4168	3.61993	10	4198	3.62304	11	4228	3.62613	11
4169	3.62003	11	4199	3.62315	10	4229	3.62624	10
4170	3.62014		4200	3.62325		4230	3.62634	

N.	1. 10′ 30″ Log.	D.	N.	1. 11′ 0″ Log.	D.	N.	1. 11′ 30″ Log.	D.
4230	3.62634	10	4260	3.62941	10	4290	3.63246	10
4231	3.62644	11	4261	3.62951	10	4291	3.63256	10
4232	3.62655	10	4262	3.62961	11	4292	3.63266	10
4233	3.62665	10	4263	3.62972	10	4293	3.63276	10
4234	3.62675	10	4264	3.62982	10	4294	3.63286	10
4235	3.62685	11	4265	3.62992	10	4295	3.63296	10
4236	3.62696	10	4266	3.63002	10	4296	3.63306	11
4237	3.62706	10	4267	3.63012	10	4297	3.63317	10
4238	3.62716	10	4268	3.63022	11	4298	3.63327	10
4239	3.62726	11	4269	3.63033	10	4299	3.63337	10
4240	3.62737	10	4270	3.63043	10	4300	3.63347	10
4241	3.62747	10	4271	3.63053	10	4301	3.63357	10
4242	3.62757	10	4272	3.63063	10	4302	3.63367	10
4243	3.62767	11	4273	3.63073	10	4303	3.63377	10
4244	3.62778	10	4274	3.63083	11	4304	3.63387	10
4245	3.62788	10	4275	3.63094	10	4305	3.63397	10
4246	3.62798	10	4276	3.63104	10	4306	3.63407	10
4247	3.62808	10	4277	3.63114	10	4307	3.63417	11
4248	3.62818	11	4278	3.63124	10	4308	3.63428	10
4249	3.62829	10	4279	3.63134	10	4309	3.63438	10
4250	3.62839	10	4280	3.63144	11	4310	3.63448	10
4251	3.62849	10	4281	3.63155	10	4311	3.63458	10
4252	3.62859	11	4282	3.63165	10	4312	3.63468	10
4253	3.62870	10	4283	3.63175	10	4313	3.63478	10
4254	3.62880	10	4284	3.63185	10	4314	3.63488	10
4255	3.62890	10	4285	3.63195	10	4315	3.63498	10
4256	3.62900	10	4286	3.63205	10	4316	3.63508	10
4257	3.62910	11	4287	3.63215	10	4317	3.63518	10
4258	3.62921	10	4288	3.63225	11	4318	3.63528	10
4259	3.62931	10	4289	3.63236	10	4319	3.63538	10
4260	3.62941		4290	3.63246		4320	3.63548	

N.	1. 12′ 0″ Log.	D.	N.	1. 12′ 30″ Log.	D.	N.	1. 13′ 0″ Log.	D.
4320	3.63548	10	4350	3.63849	10	4380	3.64147	10
4321	3.63558	10	4351	3.63859	10	4381	3.64157	10
4322	3.63568	11	4352	3.63869	10	4382	3.64167	10
4323	3.63579	10	4353	3.63879	10	4383	3.64177	10
4324	3.63589	10	4354	3.63889	10	4384	3.64187	10
4325	3.63599	10	4355	3.63899	10	4385	3.64197	10
4326	3.63609	10	4356	3.63909	10	4386	3.64207	10
4327	3.63619	10	4357	3.63919	10	4387	3.64217	10
4328	3.63629	10	4358	3.63929	10	4388	3.64227	10
4329	3.63639	10	4359	3.63939	10	4389	3.64237	9
4330	3.63649	10	4360	3.63949	10	4390	3.64246	10
4331	3.63659	10	4361	3.63959	10	4391	3.64256	10
4332	3.63669	10	4362	3.63969	10	4392	3.64266	10
4333	3.63679	10	4363	3.63979	9	4393	3.64276	10
4334	3.63689	10	4364	3.63988	10	4394	3.64286	10
4335	3.63699	10	4365	3.63998	10	4395	3.64296	10
4336	3.63709	10	4366	3.64008	10	4396	3.64306	10
4337	3.63719	10	4367	3.64018	10	4397	3.64316	10
4338	3.63729	10	4368	3.64028	10	4398	3.64326	9
4339	3.63739	10	4369	3.64038	10	4399	3.64335	10
4340	3.63749	10	4370	3.64048	10	4400	3.64345	10
4341	3.63759	10	4371	3.64058	10	4401	3.64355	10
4342	3.63769	10	4372	3.64068	10	4402	3.64365	10
4343	3.63779	10	4373	3.64078	10	4403	3.64375	10
4344	3.63789	10	4374	3.64088	10	4404	3.64385	10
4345	3.63799	10	4375	3.64098	10	4405	3.64395	9
4346	3.63809	10	4376	3.64108	10	4406	3.64404	10
4347	3.63819	10	4377	3.64118	10	4407	3.64414	10
4348	3.63829	10	4378	3.64128	9	4408	3.64424	10
4349	3.63839	10	4379	3.64137	10	4409	3.64434	10
4350	3.63849		4380	3.64147		4410	3.64444	

N.	1. 13′ 30″ Log.	D.	N.	1. 14′ 0″ Log.	D.	N.	1. 14′ 30″ Log.	D.
4410	3.64444	10	4440	3.64738	10	4470	3.65031	9
4411	3.64454	10	4441	3.64748	10	4471	3.65040	10
4412	3.64464	9	4442	3.64758	10	4472	3.65050	10
4413	3.64473	10	4443	3.64768	9	4473	3.65060	10
4414	3.64483	10	4444	3.64777	10	4474	3.65070	9
4415	3.64493	10	4445	3.64787	10	4475	3.65079	10
4416	3.64503	10	4446	3.64797	10	4476	3.65089	10
4417	3.64513	10	4447	3.64807	9	4477	3.65099	9
4418	3.64523	9	4448	3.64816	10	4478	3.65108	10
4419	3.64532	10	4449	3.64826	10	4479	3.65118	10
4420	3.64542	10	4450	3.64836	10	4480	3.65128	9
4421	3.64552	10	4451	3.64846	10	4481	3.65137	10
4422	3.64562	10	4452	3.64856	9	4482	3.65147	10
4423	3.64572	10	4453	3.64865	10	4483	3.65157	10
4424	3.64582	9	4454	3.64875	10	4484	3.65167	9
4425	3.64591	10	4455	3.64885	10	4485	3.65176	10
4426	3.64601	10	4456	3.64895	9	4486	3.65186	10
4427	3.64611	10	4457	3.64904	10	4487	3.65196	9
4428	3.64621	10	4458	3.64914	10	4488	3.65205	10
4429	3.64631	9	4459	3.64924	9	4489	3.65215	10
4430	3.64640	10	4460	3.64933	10	4490	3.65225	9
4431	3.64650	10	4461	3.64943	10	4491	3.65234	10
4432	3.64660	10	4462	3.64953	10	4492	3.65244	10
4433	3.64670	10	4463	3.64963	9	4493	3.65254	9
4434	3.64680	9	4464	3.64972	10	4494	3.65263	10
4435	3.64689	10	4465	3.64982	10	4495	3.65273	10
4436	3.64699	10	4466	3.64992	10	4496	3.65283	9
4437	3.64709	10	4467	3.65002	9	4497	3.65292	10
4438	3.64719	10	4468	3.65011	10	4498	3.65302	10
4439	3.64729	9	4469	3.65021	10	4499	3.65312	9
4440	3.64738		4470	3.65031		4500	3.65321	

N.	1. 15′ 0″ Log.	D.	N.	1. 15′ 30″ Log.	D.	N.	1. 16′ 0″ Log.	D.
4500	3.65321	10	4530	3.65610	9	4560	3.65896	10
4501	3.65331	10	4531	3.65619	10	4561	3.65906	10
4502	3.65341	9	4532	3.65629	10	4562	3.65916	9
4503	3.65350	10	4533	3.65639	9	4563	3.65925	10
4504	3.65360	9	4534	3.65648	10	4564	3.65935	9
4505	3.65369	10	4535	3.65658	9	4565	3.65944	10
4506	3.65379	10	4536	3.65667	10	4566	3.65954	9
4507	3.65389	9	4537	3.65677	9	4567	3.65963	10
4508	3.65398	10	4538	3.65686	10	4568	3.65973	9
4509	3.65408	10	4539	3.65696	10	4569	3.65982	10
4510	3.65418	9	4540	3.65706	9	4570	3.65992	9
4511	3.65427	10	4541	3.65715	10	4571	3.66001	10
4512	3.65437	10	4542	3.65725	9	4572	3.66011	9
4513	3.65447	9	4543	3.65734	10	4573	3.66020	10
4514	3.65456	10	4544	3.65744	9	4574	3.66030	9
4515	3.65466	9	4545	3.65753	10	4575	3.66039	10
4516	3.65475	10	4546	3.65763	9	4576	3.66049	9
4517	3.65485	10	4547	3.65772	10	4577	3.66058	10
4518	3.65495	9	4548	3.65782	10	4578	3.66068	9
4519	3.65504	10	4549	3.65792	9	4579	3.66077	10
4520	3.65514	9	4550	3.65801	10	4580	3.66087	9
4521	3.65523	10	4551	3.65811	9	4581	3.66096	10
4522	3.65533	10	4552	3.65820	10	4582	3.66106	9
4523	3.65543	9	4553	3.65830	9	4583	3.66115	9
4524	3.65552	10	4554	3.65839	10	4584	3.66124	10
4525	3.65562	9	4555	3.65849	9	4585	3.66134	9
4526	3.65571	10	4556	3.65858	10	4586	3.66143	10
4527	3.65581	10	4557	3.65868	9	4587	3.66153	9
4528	3.65591	9	4558	3.65877	10	4588	3.66162	10
4529	3.65600	10	4559	3.65887	9	4589	3.66172	9
4530	3.65610		4560	3.65896		4590	3.66181	

N.	1.16 30″ Log.	D.	N.	1.17′ 0″ Log.	D.	N.	1.17′ 30″ Log.	D.
4590	3.66181	10	4620	3.66464	10	4650	3.66745	10
4591	3.66191	9	4621	3.66474	9	4651	3.66755	9
4592	3.66200	10	4622	3.66483	9	4652	3.66764	9
4593	3.66210	9	4623	3.66492	10	4653	3.66773	10
4594	3.66219	10	4624	3.66502	9	4654	3.66783	9
4595	3.66229	9	4625	3.66511	10	4655	3.66792	9
4596	3.66238	9	4626	3.66521	9	4656	3.66801	10
4597	3.66247	10	4627	3.66530	9	4657	3.66811	9
4598	3.66257	9	4628	3.66539	10	4658	3.66820	9
4599	3.66266	10	4629	3.66549	9	4659	3.66829	10
4600	3.66276	9	4630	3.66558	9	4660	3.66839	9
4601	3.66285	10	4631	3.66567	10	4661	3.66848	9
4602	3.66295	9	4632	3.66577	9	4662	3.66857	10
4603	3.66304	10	4633	3.66586	10	4663	3.66867	9
4604	3.66314	9	4634	3.66596	9	4664	3.66876	9
4605	3.66323	9	4635	3.66605	9	4665	3.66885	9
4606	3.66332	10	4636	3.66614	10	4666	3.66894	10
4607	3.66342	9	4637	3.66624	9	4667	3.66904	9
4608	3.66351	10	4638	3.66633	9	4668	3.66913	9
4609	3.66361	9	4639	3.66642	10	4669	3.66922	10
4610	3.66370	10	4640	3.66652	9	4670	3.66932	9
4611	3.66380	9	4641	3.66661	10	4671	3.66941	9
4612	3.66389	9	4642	3.66671	9	4672	3.66950	10
4613	3.66398	10	4643	3.66680	9	4673	3.66960	9
4614	3.66408	9	4644	3.66689	10	4674	3.66969	9
4615	3.66417	10	4645	3.66699	9	4675	3.66978	9
4616	3.66427	9	4646	3.66708	9	4676	3.66987	10
4617	3.66436	9	4647	3.66717	10	4677	3.66997	9
4618	3.66445	10	4648	3.66727	9	4678	3.67006	9
4619	3.66455	9	4649	3.66736	9	4679	3.67015	10
4620	3.66464		4650	3.66745		4680	3.67025	

N.	1. 18′ 0″ Log.	D.	N.	1. 18′ 30″ Log.	D.	N.	1. 19′ 0″ Log.	D.
4680	3.67025	9	4710	3.67302	9	4740	3.67578	9
4681	3.67034	9	4711	3.67311	10	4741	3.67587	9
4682	3.67043	9	4712	3.67321	9	4742	3.67596	9
4683	3.67052	10	4713	3.67330	9	4743	3.67605	9
4684	3.67062	9	4714	3.67339	9	4744	3.67614	10
4685	3.67071	9	4715	3.67348	9	4745	3.67624	9
4686	3.67080	9	4716	3.67357	10	4746	3.67633	9
4687	3.67089	10	4717	3.67367	9	4747	3.67642	9
4688	3.67099	9	4718	3.67376	9	4748	3.67651	9
4689	3.67108	9	4719	3.67385	9	4749	3.67660	9
4690	3.67117	10	4720	3.67394	9	4750	3.67669	10
4691	3.67127	9	4721	3.67403	10	4751	3.67679	9
4692	3.67136	9	4722	3.67413	9	4752	3.67688	9
4693	3.67145	9	4723	3.67422	9	4753	3.67697	9
4694	3.67154	10	4724	3.67431	9	4754	3.67706	9
4695	3.67164	9	4725	3.67440	9	4755	3.67715	9
4696	3.67173	9	4726	3.67449	10	4756	3.67724	9
4697	3.67182	9	4727	3.67459	9	4757	3.67733	9
4698	3.67191	10	4728	3.67468	9	4758	3.67742	10
4699	3.67201	9	4729	3.67477	9	4759	3.67752	9
4700	3.67210	9	4730	3.67486	9	4760	3.67761	9
4701	3.67219	9	4731	3.67495	9	4761	3.67770	9
4702	3.67228	9	4732	3.67504	10	4762	3.67779	9
4703	3.67237	10	4733	3.67514	9	4763	3.67788	9
4704	3.67247	9	4734	3.67523	9	4764	3.67797	9
4705	3.67256	9	4735	3.67532	9	4765	3.67806	9
4706	3.67265	9	4736	3.67541	9	4766	3.67815	10
4707	3.67274	10	4737	3.67550	10	4767	3.67825	9
4708	3.67284	9	4738	3.67560	9	4768	3.67834	9
4709	3.67293	9	4739	3.67569	9	4769	3.67843	9
4710	3.67302		4740	3.67578		4770	3.67852	

N.	1. 19 30 Log.	D.	N.	1. 20′ 0 Log.	D.	N.	1. 20 30″ Log.	D.
4770	3.67852	9	4800	3.68124	9	4830	3.68395	9
4771	3.67861	9	4801	3.68133	9	4831	3.68404	9
4772	3.67870	9	4802	3.68142	9	4832	3.68413	9
4773	3.67879	9	4803	3.68151	9	4833	3.68422	9
4774	3.67888	9	4804	3.68160	9	4834	3.68431	9
4775	3.67897	9	4805	3.68169	9	4835	3.68440	9
4776	3.67906	10	4806	3.68178	9	4836	3.68449	9
4777	3.67916	9	4807	3.68187	9	4837	3.68458	9
4778	3.67925	9	4808	3.68196	9	4838	3.68467	9
4779	3.67934	9	4809	3.68205	10	4839	3.68476	9
4780	3.67943	9	4810	3.68215	9	4840	3.68485	9
4781	3.67952	9	4811	3.68224	9	4841	3.68494	8
4782	3.67961	9	4812	3.68233	9	4842	3.68502	9
4783	3.67970	9	4813	3.68242	9	4843	3.68511	9
4784	3.67979	9	4814	3.68251	9	4844	3.68520	9
4785	3.67988	9	4815	3.68260	9	4845	3.68529	9
4786	3.67997	9	4816	3.68269	9	4846	3.68538	9
4787	3.68006	9	4817	3.68278	9	4847	3.68547	9
4788	3.68015	9	4818	3.68287	9	4848	3.68556	9
4789	3.68024	10	4819	3.68296	9	4849	3.68565	9
4790	3.68034	9	4820	3.68305	9	4850	3.68574	9
4791	3.68043	9	4821	3.68314	9	4851	3.68583	9
4792	3.68052	9	4822	3.68323	9	4852	3.68592	9
4793	3.68061	9	4823	3.68332	9	4853	3.68601	9
4794	3.68070	9	4824	3.68341	9	4854	3.68610	9
4795	3.68079	9	4825	3.68350	9	4855	3.68619	9
4796	3.68088	9	4826	3.68359	9	4856	3.68628	9
4797	3.68097	9	4827	3.68368	9	4857	3.68637	9
4798	3.68106	9	4828	3.68377	9	4858	3.68646	9
4799	3.68115	9	4829	3.68386	9	4859	3.68655	9
4800	3.68124		4830	3.68395		4860	3.68664	

N.	1. 21 0 Log.	D.	N.	1. 21 30 Log.	D.	N.	1. 22 0 Log.	D.
4860	3.68664	9	4890	3.68931	9	4920	3.69197	8
4861	3.68673	8	4891	3.68940	9	4921	3.69205	9
4862	3.68681	9	4892	3.68949	9	4922	3.69214	9
4863	3.68690	9	4893	3.68958	8	4923	3.69223	9
4864	3.68699	9	4894	3.68966	9	4924	3.69232	9
4865	3.68708	9	4895	3.68975	9	4925	3.69241	8
4866	3.68717	9	4896	3.68984	9	4926	3.69249	9
4867	3.68726	9	4897	3.68993	9	4927	3.69258	9
4868	3.68735	9	4898	3.69002	9	4928	3.69267	9
4869	3.68744	9	4899	3.69011	9	4929	3.69276	9
4870	3.68753	9	4900	3.69020	8	4930	3.69285	9
4871	3.68762	9	4901	3.69028	9	4931	3.69294	8
4872	3.68771	9	4902	3.69037	9	4932	3.69302	9
4873	3.68780	9	4903	3.69046	9	4933	3.69311	9
4874	3.68789	8	4904	3.69055	9	4934	3.69320	9
4875	3.68797	9	4905	3.69064	9	4935	3.69329	9
4876	3.68806	9	4906	3.69073	9	4936	3.69338	8
4877	3.68815	9	4907	3.69082	8	4937	3.69346	9
4878	3.68824	9	4908	3.69090	9	4938	3.69355	9
4879	3.68833	9	4909	3.69099	9	4939	3.69364	9
4880	3.68842	9	4910	3.69108	9	4940	3.69373	8
4881	3.68851	9	4911	3.69117	9	4941	3.69381	9
4882	3.68860	9	4912	3.69126	9	4942	3.69390	9
4883	3.68869	9	4913	3.69135	9	4943	3.69399	9
4884	3.68878	8	4914	3.69144	8	4944	3.69408	9
4885	3.68886	9	4915	3.69152	9	4945	3.69417	8
4886	3.68895	9	4916	3.69161	9	4946	3.69425	9
4887	3.68904	9	4917	3.69170	9	4947	3.69434	9
4888	3.68913	9	4918	3.69179	9	4948	3.69443	9
4889	3.68922	9	4919	3.69188	9	4949	3.69452	9
4890	3.68931		4920	3.69197		4950	3.69461	

N.	1. 22′ 30″ Log.	D.	N.	1. 23′ 0″ Log.	D.	N.	1. 23′ 30″ Log.	D.
4950	3.69461		4980	3.69723		5010	3.69984	
4951	3.69469	8	4981	3.69732	9	5011	3.69992	8
4952	3.69478	9	4982	3.69740	8	5012	3.70001	9
4953	3.69487	9	4983	3.69749	9	5013	3.70010	9
4954	3.69496	9	4984	3.69758	9	5014	3.70018	8
4955	3.69504	8	4985	3.69767	9	5015	3.70027	9
4956	3.69513	9	4986	3.69775	8	5016	3.70036	9
4957	3.69522	9	4987	3.69784	9	5017	3.70044	8
4958	3.69531	9	4988	3.69793	9	5018	3.70053	9
4959	3.69539	8	4989	3.69801	8	5019	3.70062	9
4960	3.69548	9	4990	3.69810	9	5020	3.70070	8
4961	3.69557	9	4991	3.69819	9	5021	3.70079	9
4962	3.69566	9	4992	3.69827	8	5022	3.70088	9
4963	3.69574	8	4993	3.69836	9	5023	3.70096	8
4964	3.69583	9	4994	3.69845	9	5024	3.70105	9
4965	3.69592	9	4995	3.69854	9	5025	3.70114	9
4966	3.69601	9	4996	3.69862	8	5026	3.70122	8
4967	3.69609	8	4997	3.69871	9	5027	3.70131	9
4968	3.69618	9	4998	3.69880	9	5028	3.70140	9
4969	3.69627	9	4999	3.69888	8	5029	3.70148	8
4970	3.69636	9	5000	3.69897	9	5030	3.70157	9
4971	3.69644	8	5001	3.69906	9	5031	3.70165	8
4972	3.69653	9	5002	3.69914	8	5032	3.70174	9
4973	3.69662	9	5003	3.69923	9	5033	3.70183	9
4974	3.69671	9	5004	3.69932	9	5034	3.70191	8
4975	3.69679	8	5005	3.69940	8	5035	3.70200	9
4976	3.69688	9	5006	3.69949	9	5036	3.70209	9
4977	3.69697	9	5007	3.69958	9	5037	3.70217	8
4978	3.69705	8	5008	3.69966	8	5038	3.70226	9
4979	3.69714	9	5009	3.69975	9	5039	3.70234	8
4980	3.69723	9	5010	3.69984	9	5040	3.70243	9

N.	l. 24′ 0″ Log.	D.	N.	l. 24′ 30″ Log.	D.	N.	l. 25′ 0″ Log.	D.
5040	3.70243	9	5070	3.70501	8	5100	3.70757	9
5041	3.70252	8	5071	3.70509	9	5101	3.70766	8
5042	3.70260	9	5072	3.70518	8	5102	3.70774	9
5043	3.70269	9	5073	3.70526	9	5103	3.70783	8
5044	3.70278	8	5074	3.70535	9	5104	3.70791	9
5045	3.70286	9	5075	3.70544	8	5105	3.70800	8
5046	3.70295	8	5076	3.70552	9	5106	3.70808	9
5047	3.70303	9	5077	3.70561	8	5107	3.70817	8
5048	3.70312	9	5078	3.70569	9	5108	3.70825	9
5049	3.70321	8	5079	3.70578	8	5109	3.70834	8
5050	3.70329	9	5080	3.70586	9	5110	3.70842	9
5051	3.70338	8	5081	3.70595	8	5111	3.70851	8
5052	3.70346	9	5082	3.70603	9	5112	3.70859	9
5053	3.70355	9	5083	3.70612	9	5113	3.70868	8
5054	3.70364	8	5084	3.70621	8	5114	3.70876	9
5055	3.70372	9	5085	3.70629	9	5115	3.70885	8
5056	3.70381	8	5086	3.70638	8	5116	3.70893	9
5057	3.70389	9	5087	3.70646	9	5117	3.70902	8
5058	3.70398	8	5088	3.70655	8	5118	3.70910	9
5059	3.70406	9	5089	3.70663	9	5119	3.70919	8
5060	3.70415	9	5090	3.70672	8	5120	3.70927	8
5061	3.70424	8	5091	3.70680	9	5121	3.70935	9
5062	3.70432	9	5092	3.70689	8	5122	3.70944	8
5063	3.70441	8	5093	3.70697	9	5123	3.70952	9
5064	3.70449	9	5094	3.70706	8	5124	3.70961	8
5065	3.70458	9	5095	3.70714	9	5125	3.70969	9
5066	3.70467	8	5096	3.70723	8	5126	3.70978	8
5067	3.70475	9	5097	3.70731	9	5127	3.70986	9
5068	3.70484	8	5098	3.70740	9	5128	3.70995	8
5069	3.70492	9	5099	3.70749	8	5129	3.71003	9
5070	3.70501		5100	3.70757		5130	3.71012	

N.	1.25' 30'' Log.	D.	N.	1.26 0 Log.	D.	N.	1.26' 30'' Log.	D.
5130	3.71012	8	5160	3.71265	8	5190	3.71517	8
5131	3.71020	9	5161	3.71273	9	5191	3.71525	8
5132	3.71029	8	5162	3.71282	8	5192	3.71533	9
5133	3.71037	9	5163	3.71290	9	5193	3.71542	8
5134	3.71046	8	5164	3.71299	8	5194	3.71550	9
5135	3.71054	9	5165	3.71307	8	5195	3.71559	8
5136	3.71063	8	5166	3.71315	9	5196	3.71567	8
5137	3.71071	8	5167	3.71324	8	5197	3.71575	9
5138	3.71079	9	5168	3.71332	9	5198	3.71584	8
5139	3.71088	8	5169	3.71341	8	5199	3.71592	8
5140	3.71096	9	5170	3.71349	8	5200	3.71600	9
5141	3.71105	8	5171	3.71357	9	5201	3.71609	8
5142	3.71113	9	5172	3.71366	8	5202	3.71617	8
5143	3.71122	8	5173	3.71374	9	5203	3.71625	9
5144	3.71130	9	5174	3.71383	8	5204	3.71634	8
5145	3.71139	8	5175	3.71391	8	5205	3.71642	8
5146	3.71147	8	5176	3.71399	9	5206	3.71650	9
5147	3.71155	9	5177	3.71408	8	5207	3.71659	8
5148	3.71164	8	5178	3.71416	9	5208	3.71667	8
5149	3.71172	9	5179	3.71425	8	5209	3.71675	9
5150	3.71181	8	5180	3.71433	8	5210	3.71684	8
5151	3.71189	9	5181	3.71441	9	5211	3.71692	8
5152	3.71198	8	5182	3.71450	8	5212	3.71700	9
5153	3.71206	8	5183	3.71458	8	5213	3.71709	8
5154	3.71214	9	5184	3.71466	9	5214	3.71717	8
5155	3.71223	8	5185	3.71475	8	5215	3.71725	9
5156	3.71231	9	5186	3.71483	9	5216	3.71734	8
5157	3.71240	8	5187	3.71492	8	5217	3.71742	8
5158	3.71248	9	5188	3.71500	8	5218	3.71750	9
5159	3.71257	8	5189	3.71508	9	5219	3.71759	8
5160	3.71265		5190	3.71517		5220	3.71767	

N.	1. 27′ 0″ Log.	D.	N.	1. 27′ 30″ Log.	D.	N.	1. 28′ 0″ Log.	D.
5220	3.71767	8	5250	3.72016	8	5280	3.72263	9
5221	3.71775	9	5251	3.72024	8	5281	3.72272	8
5222	3.71784	8	5252	3.72032	9	5282	3.72280	8
5223	3.71792	8	5253	3.72041	8	5283	3.72288	8
5224	3.71800	9	5254	3.72049	8	5284	3.72296	8
5225	3.71809	8	5255	3.72057	9	5285	3.72304	9
5226	3.71817	8	5256	3.72066	8	5286	3.72313	8
5227	3.71825	9	5257	3.72074	8	5287	3.72321	8
5228	3.71834	8	5258	3.72082	8	5288	3.72329	8
5229	3.71842	8	5259	3.72090	9	5289	3.72337	9
5230	3.71850	8	5260	3.72099	8	5290	3.72346	8
5231	3.71858	9	5261	3.72107	8	5291	3.72354	8
5232	3.71867	8	5262	3.72115	8	5292	3.72362	8
5233	3.71875	8	5263	3.72123	9	5293	3.72370	8
5234	3.71883	9	5264	3.72132	8	5294	3.72378	9
5235	3.71892	8	5265	3.72140	8	5295	3.72387	8
5236	3.71900	8	5266	3.72148	8	5296	3.72395	8
5237	3.71908	9	5267	3.72156	9	5297	3.72403	8
5238	3.71917	8	5268	3.72165	8	5298	3.72411	8
5239	3.71925	8	5269	3.72173	8	5299	3.72419	9
5240	3.71933	8	5270	3.72181	8	5300	3.72428	8
5241	3.71941	9	5271	3.72189	9	5301	3.72436	8
5242	3.71950	8	5272	3.72198	8	5302	3.72444	8
5243	3.71958	8	5273	3.72206	8	5303	3.72452	8
5244	3.71966	9	5274	3.72214	8	5304	3.72460	9
5245	3.71975	8	5275	3.72222	8	5305	3.72469	8
5246	3.71983	8	5276	3.72230	9	5306	3.72477	8
5247	3.71991	8	5277	3.72239	8	5307	3.72485	8
5248	3.71999	9	5278	3.72247	8	5308	3.72493	8
5249	3.72008	8	5279	3.72255	8	5309	3.72501	8
5250	3.72016		5280	3.72263		5310	3.72509	

N.	1. 28′ 30″ Log.	D.	N.	1. 29′ 0″ Log.	D.	N.	1. 29′ 30″ Log.	D.
5310	3.72509	9	5340	3.72754	8	5370	3.72997	9
5311	3.72518	8	5341	3.72762	8	5371	3.73006	8
5312	3.72526	8	5342	3.72770	9	5372	3.73014	8
5313	3.72534	8	5343	3.72779	8	5373	3.73022	8
5314	3.72542	8	5344	3.72787	8	5374	3.73030	8
5315	3.72550	8	5345	3.72795	8	5375	3.73038	8
5316	3.72558	9	5346	3.72803	8	5376	3.73046	8
5317	3.72567	8	5347	3.72811	8	5377	3.73054	8
5318	3.72575	8	5348	3.72819	8	5378	3.73062	8
5319	3.72583	8	5349	3.72827	8	5379	3.73070	8
5320	3.72591	8	5350	3.72835	8	5380	3.73078	8
5321	3.72599	8	5351	3.72843	9	5381	3.73086	8
5322	3.72607	9	5352	3.72852	8	5382	3.73094	8
5323	3.72616	8	5353	3.72860	8	5383	3.73102	9
5324	3.72624	8	5354	3.72868	8	5384	3.73111	8
5325	3.72632	8	5355	3.72876	8	5385	3.73119	8
5326	3.72640	8	5356	3.72884	8	5386	3.73127	8
5327	3.72648	8	5357	3.72892	8	5387	3.73135	8
5328	3.72656	9	5358	3.72900	8	5388	3.73143	8
5329	3.72665	8	5359	3.72908	8	5389	3.73151	8
5330	3.72673	8	5360	3.72916	9	5390	3.73159	8
5331	3.72681	8	5361	3.72925	8	5391	3.73167	8
5332	3.72689	8	5362	3.72933	8	5392	3.73175	8
5333	3.72697	8	5363	3.72941	8	5393	3.73183	8
5334	3.72705	8	5364	3.72949	8	5394	3.73191	8
5335	3.72713	9	5365	3.72957	8	5395	3.73199	8
5336	3.72722	8	5366	3.72965	8	5396	3.73207	8
5337	3.72730	8	5367	3.72973	8	5397	3.73215	8
5338	3.72738	8	5368	3.72981	8	5398	3.73223	8
5339	3.72746	8	5369	3.72989	8	5399	3.73231	8
5340	3.72754		5370	3.72997		5400	3.73239	

N.	1. 30′ 0″ Log.	D.	N.	1. 30′ 30″ Log.	D.	N.	1. 31′ 0″ Log.	D.
5400	3.73239	8	5430	3.73480	8	5460	3.73719	8
5401	3.73247	8	5431	3.73488	8	5461	3.73727	8
5402	3.73255	8	5432	3.73496	8	5462	3.73735	8
5403	3.73263	9	5433	3.73504	8	5463	3.73743	8
5404	3.73272	8	5434	3.73512	8	5464	3.73751	8
5405	3.73280	8	5435	3.73520	8	5465	3.73759	8
5406	3.73288	8	5436	3.73528	8	5466	3.73767	8
5407	3.73296	8	5437	3.73536	8	5467	3.73775	8
5408	3.73304	8	5438	3.73544	8	5468	3.73783	8
5409	3.73312	8	5439	3.73552	8	5469	3.73791	8
5410	3.73320	8	5440	3.73560	8	5470	3.73799	8
5411	3.73328	8	5441	3.73568	8	5471	3.73807	8
5412	3.73336	8	5442	3.73576	8	5472	3.73815	8
5413	3.73344	8	5443	3.73584	8	5473	3.73823	7
5414	3.73352	8	5444	3.73592	8	5474	3.73830	8
5415	3.73360	8	5445	3.73600	8	5475	3.73838	8
5416	3.73368	8	5446	3.73608	8	5476	3.73846	8
5417	3.73376	8	5447	3.73616	8	5477	3.73854	8
5418	3.73384	8	5448	3.73624	8	5478	3.73862	8
5419	3.73392	8	5449	3.73632	8	5479	3.73870	8
5420	3.73400	8	5450	3.73640	8	5480	3.73878	8
5421	3.73408	8	5451	3.73648	8	5481	3.73886	8
5422	3.73416	8	5452	3.73656	8	5482	3.73894	8
5423	3.73424	8	5453	3.73664	8	5483	3.73902	8
5424	3.73432	8	5454	3.73672	7	5484	3.73910	8
5425	3.73440	8	5455	3.73679	8	5485	3.73918	8
5426	3.73448	8	5456	3.73687	8	5486	3.73926	7
5427	3.73456	8	5457	3.73695	8	5487	3.73933	8
5428	3.73464	8	5458	3.73703	8	5488	3.73941	8
5429	3.73472	8	5459	3.73711	8	5489	3.73949	8
5430	3.73480		5460	3.73719		5490	3.73957	

N.	1. 31′ 30″ Log.	D.	N.	1. 32′ 0″ Log.	D.	N.	1. 32′ 30″ Log.	D.
5490	3.73957	8	5520	3.74194	8	5550	3.74429	8
5491	3.73965	8	5521	3.74202	8	5551	3.74437	8
5492	3.73973	8	5522	3.74210	8	5552	3.74445	8
5493	3.73981	8	5523	3.74218	7	5553	3.74453	8
5494	3.73989	8	5524	3.74225	8	5554	3.74461	7
5495	3.73997	8	5525	3.74233	8	5555	3.74468	8
5496	3.74005	8	5526	3.74241	8	5556	3.74476	8
5497	3.74013	7	5527	3.74249	8	5557	3.74484	8
5498	3.74020	8	5528	3.74257	8	5558	3.74492	8
5499	3.74028	8	5529	3.74265	8	5559	3.74500	7
5500	3.74036	8	5530	3.74273	7	5560	3.74507	8
5501	3.74044	8	5531	3.74280	8	5561	3.74515	8
5502	3.74052	8	5532	3.74288	8	5562	3.74523	8
5503	3.74060	8	5533	3.74296	8	5563	3.74531	8
5504	3.74068	8	5534	3.74304	8	5564	3.74539	8
5505	3.74076	8	5535	3.74312	8	5565	3.74547	7
5506	3.74084	8	5536	3.74320	7	5566	3.74554	8
5507	3.74092	7	5537	3.74327	8	5567	3.74562	8
5508	3.74099	8	5538	3.74335	8	5568	3.74570	8
5509	3.74107	8	5539	3.74343	8	5569	3.74578	8
5510	3.74115	8	5540	3.74351	8	5570	3.74586	7
5511	3.74123	8	5541	3.74359	8	5571	3.74593	8
5512	3.74131	8	5542	3.74367	7	5572	3.74601	8
5513	3.74139	8	5543	3.74374	8	5573	3.74609	8
5514	3.74147	8	5544	3.74382	8	5574	3.74617	7
5515	3.74155	7	5545	3.74390	8	5575	3.74624	8
5516	3.74162	8	5546	3.74398	8	5576	3.74632	8
5517	3.74170	8	5547	3.74406	8	5577	3.74640	8
5518	3.74178	8	5548	3.74414	7	5578	3.74648	8
5519	3.74186	8	5549	3.74421	8	5579	3.74656	7
5520	3.74194		5550	3.74429		5580	3.74663	

N.	l. 33′ 0″ Log.	D.	N.	l. 33′ 30″ Log.	D.	N.	l. 34′ 0″ Log.	D.
5580	3.74663	8	5610	3.74896	8	5640	3.75128	8
5581	3.74671	8	5611	3.74904	8	5641	3.75136	7
5582	3.74679	8	5612	3.74912	8	5642	3.75143	8
5583	3.74687	8	5613	3.74920	7	5643	3.75151	8
5584	3.74695	7	5614	3.74927	8	5644	3.75159	7
5585	3.74702	8	5615	3.74935	8	5645	3.75166	8
5586	3.74710	8	5616	3.74943	7	5646	3.75174	8
5587	3.74718	8	5617	3.74950	8	5647	3.75182	7
5588	3.74726	7	5618	3.74958	8	5648	3.75189	8
5589	3.74733	8	5619	3.74966	8	5649	3.75197	8
5590	3.74741	8	5620	3.74974	7	5650	3.75205	8
5591	3.74749	8	5621	3.74981	8	5651	3.75213	7
5592	3.74757	7	5622	3.74989	8	5652	3.75220	8
5593	3.74764	8	5623	3.74997	8	5653	3.75228	8
5594	3.74772	8	5624	3.75005	7	5654	3.75236	7
5595	3.74780	8	5625	3.75012	8	5655	3.75243	8
5596	3.74788	8	5626	3.75020	8	5656	3.75251	8
5597	3.74796	7	5627	3.75028	7	5657	3.75259	7
5598	3.74803	8	5628	3.75035	8	5658	3.75266	8
5599	3.74811	8	5629	3.75043	8	5659	3.75274	8
5600	3.74819	8	5630	3.75051	8	5660	3.75282	7
5601	3.74827	7	5631	3.75059	7	5661	3.75289	8
5602	3.74834	8	5632	3.75066	8	5662	3.75297	8
5603	3.74842	8	5633	3.75074	8	5663	3.75305	7
5604	3.74850	8	5634	3.75082	7	5664	3.75312	8
5605	3.74858	7	5635	3.75089	8	5665	3.75320	8
5606	3.74865	8	5636	3.75097	8	5666	3.75328	7
5607	3.74873	8	5637	3.75105	8	5667	3.75335	8
5608	3.74881	8	5638	3.75113	7	5668	3.75343	8
5609	3.74889	7	5639	3.75120	8	5669	3.75351	7
5610	3.74896		5640	3.75128		5670	3.75358	

N.	1. 34′ 30″ Log.	D.	N.	1. 35′ 0″ Log.	D.	N.	1. 35′ 30″ Log.	D.
5670	3.75358	8	5700	3.75587	8	5730	3.75815	8
5671	3.75366	8	5701	3.75595	8	5731	3.75823	8
5672	3.75374	7	5702	3.75603	7	5732	3.75831	7
5673	3.75381	8	5703	3.75610	8	5733	3.75838	8
5674	3.75389	8	5704	3.75618	8	5734	3.75846	7
5675	3.75397	7	5705	3.75626	7	5735	3.75853	8
5676	3.75404	8	5706	3.75633	8	5736	3.75861	7
5677	3.75412	8	5707	3.75641	7	5737	3.75868	8
5678	3.75420	7	5708	3.75648	8	5738	3.75876	8
5679	3.75427	8	5709	3.75656	8	5739	3.75884	7
5680	3.75435	7	5710	3.75664	7	5740	3.75891	8
5681	3.75442	8	5711	3.75671	8	5741	3.75899	7
5682	3.75450	8	5712	3.75679	7	5742	3.75906	8
5683	3.75458	7	5713	3.75686	8	5743	3.75914	7
5684	3.75465	8	5714	3.75694	8	5744	3.75921	8
5685	3.75473	8	5715	3.75702	7	5745	3.75929	8
5686	3.75481	7	5716	3.75709	8	5746	3.75937	7
5687	3.75488	8	5717	3.75717	7	5747	3.75944	8
5688	3.75496	8	5718	3.75724	8	5748	3.75952	7
5689	3.75504	7	5719	3.75732	8	5749	3.75959	8
5690	3.75511	8	5720	3.75740	7	5750	3.75967	7
5691	3.75519	7	5721	3.75747	8	5751	3.75974	8
5692	3.75526	8	5722	3.75755	7	5752	3.75982	7
5693	3.75534	8	5723	3.75762	8	5753	3.75989	8
5694	3.75542	7	5724	3.75770	8	5754	3.75997	8
5695	3.75549	8	5725	3.75778	7	5755	3.76005	7
5696	3.75557	8	5726	3.75785	8	5756	3.76012	8
5697	3.75565	7	5727	3.75793	7	5757	3.76020	7
5698	3.75572	8	5728	3.75800	8	5758	3.76027	8
5699	3.75580	7	5729	3.75808	7	5759	3.76035	7
5700	3.75587		5730	3.75815		5760	3.76042	

N.	1. 36′ 0″ *Log.*	D.	*N.*	1. 36′ 30″ *Log.*	D.	*N.*	1. 37′ 0″ *Log.*	D.
5760	3.76042	8	5790	3.76268	7	5820	3.76492	8
5761	3.76050	7	5791	3.76275	8	5821	3.76500	7
5762	3.76057	8	5792	3.76283	7	5822	3.76507	8
5763	3.76065	7	5793	3.76290	8	5823	3.76515	7
5764	3.76072	8	5794	3.76298	7	5824	3.76522	8
5765	3.76080	7	5795	3.76305	8	5825	3.76530	7
5766	3.76087	8	5796	3.76313	7	5826	3.76537	8
5767	3.76095	8	5797	3.76320	8	5827	3.76545	7
5768	3.76103	7	5798	3.76328	7	5828	3.76552	7
5769	3.76110	8	5799	3.76335	8	5829	3.76559	8
5770	3.76118	7	5800	3.76343	7	5830	3.76567	7
5771	3.76125	8	5801	3.76350	8	5831	3.76574	8
5772	3.76133	7	5802	3.76358	7	5832	3.76582	7
5773	3.76140	8	5803	3.76365	8	5833	3.76589	8
5774	3.76148	7	5804	3.76373	7	5834	3.76597	7
5775	3.76155	8	5805	3.76380	8	5835	3.76604	8
5776	3.76163	7	5806	3.76388	7	5836	3.76612	7
5777	3.76170	8	5807	3.76395	8	5837	3.76619	7
5778	3.76178	7	5808	3.76403	7	5838	3.76626	8
5779	3.76185	8	5809	3.76410	8	5839	3.76634	7
5780	3.76193	7	5810	3.76418	7	5840	3.76641	8
5781	3.76200	8	5811	3.76425	8	5841	3.76649	7
5782	3.76208	7	5812	3.76433	7	5842	3.76656	8
5783	3.76215	8	5813	3.76440	8	5843	3.76664	7
5784	3.76223	7	5814	3.76448	7	5844	3.76671	7
5785	3.76230	8	5815	3.76455	7	5845	3.76678	8
5786	3.76238	7	5816	3.76462	8	5846	3.76686	7
5787	3.76245	8	5817	3.76470	7	5847	3.76693	8
5788	3.76253	7	5818	3.76477	8	5848	3.76701	7
5789	3.76260	8	5819	3.76485	7	5849	3.76708	8
5790	3.76268		5820	3.76492		5850	3.76716	

N.	1.37′ 30″ Log.	D.	N.	1. 38′ 0″ Log.	D.	N.	1. 38′ 30″ Log.	D
5850	3.76716	7	5880	3.76938	7	5910	3.77159	7
5851	3.76723	7	5881	3.76945	8	5911	3.77166	7
5852	3.76730	8	5882	3.76953	7	5912	3.77173	8
5853	3.76738	7	5883	3.76960	7	5913	3.77181	7
5854	3.76745	8	5884	3.76967	8	5914	3.77188	7
5855	3.76753	7	5885	3.76975	7	5915	3.77195	8
5856	3.76760	8	5886	3.76982	7	5916	3.77203	7
5857	3.76768	7	5887	3.76989	8	5917	3.77210	7
5858	3.76775	7	5888	3.76997	7	5918	3.77217	8
5859	3.76782	8	5889	3.77004	8	5919	3.77225	7
5860	3.76790	7	5890	3.77012	7	5920	3.77232	8
5861	3.76797	8	5891	3.77019	7	5921	3.77240	7
5862	3.76805	7	5892	3.77026	8	5922	3.77247	7
5863	3.76812	7	5893	3.77034	7	5923	3.77254	8
5864	3.76819	8	5894	3.77041	7	5924	3.77262	7
5865	3.76827	7	5895	3.77048	8	5925	3.77269	7
5866	3.76834	8	5896	3.77056	7	5926	3.77276	7
5867	3.76842	7	5897	3.77063	7	5927	3.77283	8
5868	3.76849	7	5898	3.77070	8	5928	3.77291	7
5869	3.76856	8	5899	3.77078	7	5929	3.77298	7
5870	3.76864	7	5900	3.77085	8	5930	3.77305	8
5871	3.76871	8	5901	3.77093	7	5931	3.77313	7
5872	3.76879	7	5902	3.77100	7	5932	3.77320	7
5873	3.76886	7	5903	3.77107	8	5933	3.77327	8
5874	3.76893	8	5904	3.77115	7	5934	3.77335	7
5875	3.76901	7	5905	3.77122	7	5935	3.77342	7
5876	3.76908	8	5906	3.77129	8	5936	3.77349	8
5877	3.76916	7	5907	3.77137	7	5937	3.77357	7
5878	3.76923	7	5908	3.77144	7	5938	3.77364	7
5879	3.76930	8	5909	3.77151	8	5939	3.77371	8
5880	3.76938		5910	3.77159		5940	3.77379	

N.	1. 39′ 0″ Log.	D.	N.	1. 39′ 30″ Log.	D.	N.	1. 40′ 0″ Log.	D.
5940	3.77379	7	5970	3.77597	8	6000	3.77815	7
5941	3.77386	7	5971	3.77605	7	6001	3.77822	8
5942	3.77393	8	5972	3.77612	7	6002	3.77830	7
5943	3.77401	7	5973	3.77619	8	6003	3.77837	7
5944	3.77408	7	5974	3.77627	7	6004	3.77844	7
5945	3.77415	7	5975	3.77634	7	6005	3.77851	8
5946	3.77422	8	5976	3.77641	7	6006	3.77859	7
5947	3.77430	7	5977	3.77648	8	6007	3.77866	7
5948	3.77437	7	5978	3.77656	7	6008	3.77873	7
5949	3.77444	8	5979	3.77663	7	6009	3.77880	7
5950	3.77452	7	5980	3.77670	7	6010	3.77887	8
5951	3.77459	7	5981	3.77677	8	6011	3.77895	7
5952	3.77466	8	5982	3.77685	7	6012	3.77902	7
5953	3.77474	7	5983	3.77692	7	6013	3.77909	7
5954	3.77481	7	5984	3.77699	7	6014	3.77916	8
5955	3.77488	7	5985	3.77706	8	6015	3.77924	7
5956	3.77495	8	5986	3.77714	7	6016	3.77931	7
5957	3.77503	7	5987	3.77721	7	6017	3.77938	7
5958	3.77510	7	5988	3.77728	7	6018	3.77945	7
5959	3.77517	8	5989	3.77735	8	6019	3.77952	8
5960	3.77525	7	5990	3.77743	7	6020	3.77960	7
5961	3.77532	7	5991	3.77750	7	6021	3.77967	7
5962	3.77539	7	5992	3.77757	7	6022	3.77974	7
5963	3.77546	8	5993	3.77764	8	6023	3.77981	7
5964	3.77554	7	5994	3.77772	7	6024	3.77988	8
5965	3.77561	7	5995	3.77779	7	6025	3.77996	7
5966	3.77568	8	5996	3.77786	7	6026	3.78003	7
5967	3.77576	7	5997	3.77793	8	6027	3.78010	7
5968	3.77583	7	5998	3.77801	7	6028	3.78017	8
5969	3.77590	7	5999	3.77808	7	6029	3.78025	7
5970	3.77597		6000	3.77815		6030	3.78032	

N.	1. 40′ 30″ Log.	D.	N.	1. 41′ 0″ Log.	D.	N.	1. 41′ 30″ Log.	D
6030	3.78032	7	6060	3.78247	7	6090	3.78462	7
6031	3.78039	7	6061	3.78254	8	6091	3.78469	7
6032	3.78046	7	6062	3.78262	7	6092	3.78476	7
6033	3.78053	8	6063	3.78269	7	6093	3.78483	7
6034	3.78061	7	6064	3.78276	7	6094	3.78490	7
6035	3.78068	7	6065	3.78283	7	6095	3.78497	7
6036	3.78075	7	6066	3.78290	7	6096	3.78504	8
6037	3.78082	7	6067	3.78297	8	6097	3.78512	7
6038	3.78089	8	6068	3.78305	7	6098	3.78519	7
6039	3.78097	7	6069	3.78312	7	6099	3.78526	7
6040	3.78104	7	6070	3.78319	7	6100	3.78533	7
6041	3.78111	7	6071	3.78326	7	6101	3.78540	7
6042	3.78118	7	6072	3.78333	7	6102	3.78547	7
6043	3.78125	7	6073	3.78340	7	6103	3.78554	7
6044	3.78132	8	6074	3.78347	8	6104	3.78561	8
6045	3.78140	7	6075	3.78355	7	6105	3.78569	7
6046	3.78147	7	6076	3.78362	7	6106	3.78576	7
6047	3.78154	7	6077	3.78369	7	6107	3.78583	7
6048	3.78161	7	6078	3.78376	7	6108	3.78590	7
6049	3.78168	8	6079	3.78383	7	6109	3.78597	7
6050	3.78176	7	6080	3.78390	8	6110	3.78604	7
6051	3.78183	7	6081	3.78398	7	6111	3.78611	7
6052	3.78190	7	6082	3.78405	7	6112	3.78618	7
6053	3.78197	7	6083	3.78412	7	6113	3.78625	8
6054	3.78204	7	6084	3.78419	7	6114	3.78633	7
6055	3.78211	8	6085	3.78426	7	6115	3.78640	7
6056	3.78219	7	6086	3.78433	7	6116	3.78647	7
6057	3.78226	7	6087	3.78440	7	6117	3.78654	7
6058	3.78233	7	6088	3.78447	8	6118	3.78661	7
6059	3.78240	7	6089	3.78455	7	6119	3.78668	7
6060	3.78247		6090	3.78462		6120	3.78675	

N.	1. 42′ 0″ Log.	D.	N.	1. 42′ 30″ Log.	D.	N.	1. 43′ 0″ Log.	D.
6120	3.78675	7	6150	3.78888	7	6180	3.79099	7
6121	3.78682	7	6151	3.78895	7	6181	3.79106	7
6122	3.78689	7	6152	3.78902	7	6182	3.79113	7
6123	3.78696	8	6153	3.78909	7	6183	3.79120	7
6124	3.78704	7	6154	3.78916	7	6184	3.79127	7
6125	3.78711	7	6155	3.78923	7	6185	3.79134	7
6126	3.78718	7	6156	3.78930	7	6186	3.79141	7
6127	3.78725	7	6157	3.78937	7	6187	3.79148	7
6128	3.78732	7	6158	3.78944	7	6188	3.79155	7
6129	3.78739	7	6159	3.78951	7	6189	3.79162	7
6130	3.78746	7	6160	3.78958	7	6190	3.79169	7
6131	3.78753	7	6161	3.78965	7	6191	3.79176	7
6132	3.78760	7	6162	3.78972	7	6192	3.79183	7
6133	3.78767	7	6163	3.78979	7	6193	3.79190	7
6134	3.78774	7	6164	3.78986	7	6194	3.79197	7
6135	3.78781	8	6165	3.78993	7	6195	3.79204	7
6136	3.78789	7	6166	3.79000	7	6196	3.79211	7
6137	3.78796	7	6167	3.79007	7	6197	3.79218	7
6138	3.78803	7	6168	3.79014	7	6198	3.79225	7
6139	3.78810	7	6169	3.79021	8	6199	3.79232	7
6140	3.78817	7	6170	3.79029	7	6200	3.79239	7
6141	3.78824	7	6171	3.79036	7	6201	3.79246	7
6142	3.78831	7	6172	3.79043	7	6202	3.79253	7
6143	3.78838	7	6173	3.79050	7	6203	3.79260	7
6144	3.78845	7	6174	3.79057	7	6204	3.79267	7
6145	3.78852	7	6175	3.79064	7	6205	3.79274	7
6146	3.78859	7	6176	3.79071	7	6206	3.79281	7
6147	3.78866	7	6177	3.79078	7	6207	3.79288	7
6148	3.78873	7	6178	3.79085	7	6208	3.79295	7
6149	3.78880	8	6179	3.79092	7	6209	3.79302	7
6150	3.78888		6180	3.79099		6210	3.79309	

N.	1. 43′ 30″ Log.	D.	N.	1. 44′ 0″ Log.	D.	N.	1. 44′ 30″ Log.	D.
6210	3.79309	7	6240	3.79518	7	6270	3.79727	7
6211	3.79316	7	6241	3.79525	7	6271	3.79734	7
6212	3.79323	7	6242	3.79532	7	6272	3.79741	7
6213	3.79330	7	6243	3.79539	7	6273	3.79748	6
6214	3.79337	7	6244	3.79546	7	6274	3.79754	7
6215	3.79344	7	6245	3.79553	7	6275	3.79761	7
6216	3.79351	7	6246	3.79560	7	6276	3.79768	7
6217	3.79358	7	6247	3.79567	7	6277	3.79775	7
6218	3.79365	7	6248	3.79574	7	6278	3.79782	7
6219	3.79372	7	6249	3.79581	7	6279	3.79789	7
6220	3.79379	7	6250	3.79588	7	6280	3.79796	7
6221	3.79386	7	6251	3.79595	7	6281	3.79803	7
6222	3.79393	7	6252	3.79602	7	6282	3.79810	7
6223	3.79400	7	6253	3.79609	7	6283	3.79817	7
6224	3.79407	7	6254	3.79616	7	6284	3.79824	7
6225	3.79414	7	6255	3.79623	7	6285	3.79831	6
6226	3.79421	7	6256	3.79630	7	6286	3.79837	7
6227	3.79428	7	6257	3.79637	7	6287	3.79844	7
6228	3.79435	7	6258	3.79644	6	6288	3.79851	7
6229	3.79442	7	6259	3.79650	7	6289	3.79858	7
6230	3.79449	7	6260	3.79657	7	6290	3.79865	7
6231	3.79456	7	6261	3.79664	7	6291	3.79872	7
6232	3.79463	7	6262	3.79671	7	6292	3.79879	7
6233	3.79470	7	6263	3.79678	7	6293	3.79886	7
6234	3.79477	7	6264	3.79685	7	6294	3.79893	7
6235	3.79484	7	6265	3.79692	7	6295	3.79900	6
6236	3.79491	7	6266	3.79699	7	6296	3.79906	7
6237	3.79498	7	6267	3.79706	7	6297	3.79913	7
6238	3.79505	6	6268	3.79713	7	6298	3.79920	7
6239	3.79511	7	6269	3.79720	7	6299	3.79927	7
6240	3.79518		6270	3.79727		6300	3.79934	

N.	1. 46' 0" Log.	D.	N.	1. 46' 30" Log.	D.	N.	1. 46' 0" Log.	D.
6300	3.79934	7	6330	3.80140	7	6360	3.80346	7
6301	3.79941	7	6331	3.80147	7	6361	3.80353	6
6302	3.79948	7	6332	3.80154	7	6362	3.80359	7
6303	3.79955	7	6333	3.80161	7	6363	3.80366	7
6304	3.79962	7	6334	3.80168	7	6364	3.80373	7
6305	3.79969	6	6335	3.80175	7	6365	3.80380	7
6306	3.79975	7	6336	3.80182	6	6366	3.80387	6
6307	3.79982	7	6337	3.80188	7	6367	3.80393	7
6308	3.79989	7	6338	3.80195	7	6368	3.80400	7
6309	3.79996	7	6339	3.80202	7	6369	3.80407	7
6310	3.80003	7	6340	3.80209	7	6370	3.80414	7
6311	3.80010	7	6341	3.80216	7	6371	3.80421	7
6312	3.80017	7	6342	3.80223	6	6372	3.80428	6
6313	3.80024	6	6343	3.80229	7	6373	3.80434	7
6314	3.80030	7	6344	3.80236	7	6374	3.80441	7
6315	3.80037	7	6345	3.80243	7	6375	3.80448	7
6316	3.80044	7	6346	3.80250	7	6376	3.80455	7
6317	3.80051	7	6347	3.80257	7	6377	3.80462	6
6318	3.80058	7	6348	3.80264	7	6378	3.80468	7
6319	3.80065	7	6349	3.80271	6	6379	3.80475	7
6320	3.80072	7	6350	3.80277	7	6380	3.80482	7
6321	3.80079	6	6351	3.80284	7	6381	3.80489	7
6322	3.80085	7	6352	3.80291	7	6382	3.80496	6
6323	3.80092	7	6353	3.80298	7	6383	3.80502	7
6324	3.80099	7	6354	3.80305	7	6384	3.80509	7
6325	3.80106	7	6355	3.80312	6	6385	3.80516	7
6326	3.80113	7	6356	3.80318	7	6386	3.80523	7
6327	3.80120	7	6357	3.80325	7	6387	3.80530	6
6328	3.80127	7	6358	3.80332	7	6388	3.80536	7
6329	3.80134	6	6359	3.80339	7	6389	3.80543	7
6330	3.80140		6360	3.80346		6390	3.80550	

N.	1. 46′ 30″ Log.	D.	N.	1. 47′ 0″ Log.	D.	N.	1. 47′ 30″ Log.	D.
6390	3.80550	7	6420	3.80754	6	6450	3.80956	7
6391	3.80557	7	6421	3.80760	7	6451	3.80963	6
6392	3.80564	6	6422	3.80767	7	6452	3.80969	7
6393	3.80570	7	6423	3.80774	7	6453	3.80976	7
6394	3.80577	7	6424	3.80781	6	6454	3.80983	7
6395	3.80584	7	6425	3.80787	7	6455	3.80990	6
6396	3.80591	7	6426	3.80794	7	6456	3.80996	7
6397	3.80598	6	6427	3.80801	7	6457	3.81003	7
6398	3.80604	7	6428	3.80808	6	6458	3.81010	7
6399	3.80611	7	6429	3.80814	7	6459	3.81017	6
6400	3.80618	7	6430	3.80821	7	6460	3.81023	7
6401	3.80625	7	6431	3.80828	7	6461	3.81030	7
6402	3.80632	6	6432	3.80835	6	6462	3.81037	6
6403	3.80638	7	6433	3.80841	7	6463	3.81043	7
6404	3.80645	7	6434	3.80848	7	6464	3.81050	7
6405	3.80652	7	6435	3.80855	7	6465	3.81057	7
6406	3.80659	6	6436	3.80862	6	6466	3.81064	6
6407	3.80665	7	6437	3.80868	7	6467	3.81070	7
6408	3.80672	7	6438	3.80875	7	6468	3.81077	7
6409	3.80679	7	6439	3.80882	7	6469	3.81084	6
6410	3.80686	7	6440	3.80889	6	6470	3.81090	7
6411	3.80693	6	6441	3.80895	7	6471	3.81097	7
6412	3.80699	7	6442	3.80902	7	6472	3.81104	7
6413	3.80706	7	6443	3.80909	7	6473	3.81111	6
6414	3.80713	7	6444	3.80916	6	6474	3.81117	7
6415	3.80720	6	6445	3.80922	7	6475	3.81124	7
6416	3.80726	7	6446	3.80929	7	6476	3.81131	6
6417	3.80733	7	6447	3.80936	7	6477	3.81137	7
6418	3.80740	7	6448	3.80943	6	6478	3.81144	7
6419	3.80747	7	6449	3.80949	7	6479	3.81151	7
6420	3.80754		6450	3.80956		6480	3.81158	

N.	1. 48′ 0″ Log.	D.	N.	1. 48′ 30″ Log.	D.	N.	1. 49′ 0″ Log.	D.
6480	3.81158	6	6510	3.81358	7	6540	3.81558	6
6481	3.81164	7	6511	3.81365	6	6541	3.81564	7
6482	3.81171	7	6512	3.81371	7	6542	3.81571	7
6483	3.81178	6	6513	3.81378	7	6543	3.81578	6
6484	3.81184	7	6514	3.81385	6	6544	3.81584	7
6485	3.81191	7	6515	3.81391	7	6545	3.81591	7
6486	3.81198	6	6516	3.81398	7	6546	3.81598	6
6487	3.81204	7	6517	3.81405	6	6547	3.81604	7
6488	3.81211	7	6518	3.81411	7	6548	3.81611	6
6489	3.81218	6	6519	3.81418	7	6549	3.81617	7
6490	3.81224	7	6520	3.81425	6	6550	3.81624	7
6491	3.81231	7	6521	3.81431	7	6551	3.81631	6
6492	3.81238	7	6522	3.81438	7	6552	3.81637	7
6493	3.81245	6	6523	3.81445	6	6553	3.81644	7
6494	3.81251	7	6524	3.81451	7	6554	3.81651	6
6495	3.81258	7	6525	3.81458	7	6555	3.81657	7
6496	3.81265	6	6526	3.81465	6	6556	3.81664	7
6497	3.81271	7	6527	3.81471	7	6557	3.81671	6
6498	3.81278	7	6528	3.81478	7	6558	3.81677	7
6499	3.81285	6	6529	3.81485	6	6559	3.81684	6
6500	3.81291	7	6530	3.81491	7	6560	3.81690	7
6501	3.81298	7	6531	3.81498	7	6561	3.81697	7
6502	3.81305	6	6532	3.81505	6	6562	3.81704	6
6503	3.81311	7	6533	3.81511	7	6563	3.81710	7
6504	3.81318	7	6534	3.81518	7	6564	3.81717	6
6505	3.81325	6	6535	3.81525	6	6565	3.81723	7
6506	3.81331	7	6536	3.81531	7	6566	3.81730	7
6507	3.81338	7	6537	3.81538	6	6567	3.81737	6
6508	3.81345	6	6538	3.81544	7	6568	3.81743	7
6509	3.81351	7	6539	3.81551	7	6569	3.81750	7
6510	3.81358		6540	3.81558		6570	3.81757	

N.	1. 49′ 30″ Log.	D.	N.	1. 50′ 0″ Log.	D.	N.	1. 50′ 30″ Log.	D.
6570	3.81757	6	6600	3.81954	7	6630	3.82151	7
6571	3.81763	7	6601	3.81961	7	6631	3.82158	6
6572	3.81770	6	6602	3.81968	6	6632	3.82164	7
6573	3.81776	7	6603	3.81974	7	6633	3.82171	7
6574	3.81783	7	6604	3.81981	6	6634	3.82178	6
6575	3.81790	6	6605	3.81987	7	6635	3.82184	7
6576	3.81796	7	6606	3.81994	6	6636	3.82191	6
6577	3.81803	6	6607	3.82000	7	6637	3.82197	7
6578	3.81809	7	6608	3.82007	7	6638	3.82204	6
6579	3.81816	7	6609	3.82014	6	6639	3.82210	7
6580	3.81823	6	6610	3.82020	7	6640	3.82217	6
6581	3.81829	7	6611	3.82027	6	6641	3.82223	7
6582	3.81836	6	6612	3.82033	7	6642	3.82230	6
6583	3.81842	7	6613	3.82040	6	6643	3.82236	7
6584	3.81849	7	6614	3.82046	7	6644	3.82243	6
6585	3.81856	6	6615	3.82053	7	6645	3.82249	7
6586	3.81862	7	6616	3.82060	6	6646	3.82256	7
6587	3.81869	6	6617	3.82066	7	6647	3.82263	6
6588	3.81875	7	6618	3.82073	6	6648	3.82269	7
6589	3.81882	7	6619	3.82079	7	6649	3.82276	6
6590	3.81889	6	6620	3.82086	6	6650	3.82282	7
6591	3.81895	7	6621	3.82092	7	6651	3.82289	6
6592	3.81902	6	6622	3.82099	6	6652	3.82295	7
6593	3.81908	7	6623	3.82105	7	6653	3.82302	6
6594	3.81915	6	6624	3.82112	7	6654	3.82308	7
6595	3.81921	7	6625	3.82119	6	6655	3.82315	6
6596	3.81928	7	6626	3.82125	7	6656	3.82321	7
6597	3.81935	6	6627	3.82132	6	6657	3.82328	6
6598	3.81941	7	6628	3.82138	7	6658	3.82334	7
6599	3.81948	6	6629	3.82145	6	6659	3.82341	6
6600	3.81954		6630	3.82151		6660	3.82347	

N.	1. 51′ 0″ Log.	D.
6660	3.82347	7
6661	3.82354	6
6662	3.82360	7
6663	3.82367	6
6664	3.82373	7
6665	3.82380	7
6666	3.82387	6
6667	3.82393	7
6668	3.82400	6
6669	3.82406	7
6670	3.82413	6
6671	3.82419	7
6672	3.82426	6
6673	3.82432	7
6674	3.82439	6
6675	3.82445	7
6676	3.82452	6
6677	3.82458	7
6678	3.82465	6
6679	3.82471	7
6680	3.82478	6
6681	3.82484	7
6682	3.82491	6
6683	3.82497	7
6684	3.82504	6
6685	3.82510	7
6686	3.82517	6
6687	3.82523	7
6688	3.82530	6
6689	3.82536	7
6690	3.82543	

N.	1. 51′ 30″ Log.	D.
6690	3.82543	6
6691	3.82549	7
6692	3.82556	6
6693	3.82562	7
6694	3.82569	6
6695	3.82575	7
6696	3.82582	6
6697	3.82588	7
6698	3.82595	6
6699	3.82601	6
6700	3.82607	7
6701	3.82614	6
6702	3.82620	7
6703	3.82627	6
6704	3.82633	7
6705	3.82640	6
6706	3.82646	7
6707	3.82653	6
6708	3.82659	7
6709	3.82666	6
6710	3.82672	7
6711	3.82679	6
6712	3.82685	7
6713	3.82692	6
6714	3.82698	7
6715	3.82705	6
6716	3.82711	7
6717	3.82718	6
6718	3.82724	6
6719	3.82730	7
6720	3.82737	

N.	1. 52′ 0″ Log.	D.
6720	3.82737	6
6721	3.82743	7
6722	3.82750	6
6723	3.82756	7
6724	3.82763	6
6725	3.82769	7
6726	3.82776	6
6727	3.82782	7
6728	3.82789	6
6729	3.82795	7
6730	3.82802	6
6731	3.82808	6
6732	3.82814	7
6733	3.82821	6
6734	3.82827	7
6735	3.82834	6
6736	3.82840	7
6737	3.82847	6
6738	3.82853	7
6739	3.82860	6
6740	3.82866	6
6741	3.82872	7
6742	3.82879	6
6743	3.82885	7
6744	3.82892	6
6745	3.82898	7
6746	3.82905	6
6747	3.82911	7
6748	3.82918	6
6749	3.82924	6
6750	3.82930	

N.	1. 52′ 30″ Log.	D.	N.	1. 53′ 0″ Log.	D.	N.	1. 53′ 30″ Log.	D.
6750	3.82930	7	6780	3.83123	6	6810	3.83315	6
6751	3.82937	6	6781	3.83129	7	6811	3.83321	6
6752	3.82943	7	6782	3.83136	6	6812	3.83327	7
6753	3.82950	6	6783	3.83142	7	6813	3.83334	6
6754	3.82956	7	6784	3.83149	6	6814	3.83340	7
6755	3.82963	6	6785	3.83155	6	6815	3.83347	6
6756	3.82969	6	6786	3.83161	7	6816	3.83353	6
6757	3.82975	7	6787	3.83168	6	6817	3.83359	7
6758	3.82982	6	6788	3.83174	7	6818	3.83366	6
6759	3.82988	7	6789	3.83181	6	6819	3.83372	6
6760	3.82995	6	6790	3.83187	6	6820	3.83378	7
6761	3.83001	7	6791	3.83193	7	6821	3.83385	6
6762	3.83008	6	6792	3.83200	6	6822	3.83391	7
6763	3.83014	6	6793	3.83206	7	6823	3.83398	6
6764	3.83020	7	6794	3.83213	6	6824	3.83404	6
6765	3.83027	6	6795	3.83219	6	6825	3.83410	7
6766	3.83033	7	6796	3.83225	7	6826	3.83417	6
6767	3.83040	6	6797	3.83232	6	6827	3.83423	6
6768	3.83046	6	6798	3.83238	7	6828	3.83429	7
6769	3.83052	7	6799	3.83245	6	6829	3.83436	6
6770	3.83059	6	6800	3.83251	6	6830	3.83442	6
6771	3.83065	7	6801	3.83257	7	6831	3.83448	7
6772	3.83072	6	6802	3.83264	6	6832	3.83455	6
6773	3.83078	7	6803	3.83270	6	6833	3.83461	6
6774	3.83085	6	6804	3.83276	7	6834	3.83467	7
6775	3.83091	6	6805	3.83283	6	6835	3.83474	6
6776	3.83097	7	6806	3.83289	7	6836	3.83480	7
6777	3.83104	6	6807	3.83296	6	6837	3.83487	6
6778	3.83110	7	6808	3.83302	6	6838	3.83493	6
6779	3.83117	6	6809	3.83308	7	6839	3.83499	7
6780	3.83123		6810	3.83315		6840	3.83506	

N.	1. 54′ 0″ Log.	D.	N.	1. 54′ 30″ Log.	D.	N.	1. 55′ 0″ Log.	D.
6840	3.83506	6	6870	3.83696	6	6900	3.83885	6
6841	3.83512	6	6871	3.83702	6	6901	3.83891	6
6842	3.83518	7	6872	3.83708	7	6902	3.83897	7
6843	3.83525	6	6873	3.83715	6	6903	3.83904	6
6844	3.83531	6	6874	3.83721	6	6904	3.83910	6
6845	3.83537	7	6875	3.83727	7	6905	3.83916	7
6846	3.83544	6	6876	3.83734	6	6906	3.83923	6
6847	3.83550	6	6877	3.83740	6	6907	3.83929	6
6848	3.83556	7	6878	3.83746	7	6908	3.83935	7
6849	3.83563	6	6879	3.83753	6	6909	3.83942	6
6850	3.83569	6	6880	3.83759	6	6910	3.83948	6
6851	3.83575	7	6881	3.83765	6	6911	3.83954	6
6852	3.83582	6	6882	3.83771	7	6912	3.83960	7
6853	3.83588	6	6883	3.83778	6	6913	3.83967	6
6854	3.83594	7	6884	3.83784	6	6914	3.83973	6
6855	3.83601	6	6885	3.83790	7	6915	3.83979	6
6856	3.83607	6	6886	3.83797	6	6916	3.83985	7
6857	3.83613	7	6887	3.83803	6	6917	3.83992	6
6858	3.83620	6	6888	3.83809	7	6918	3.83998	6
6859	3.83626	6	6889	3.83816	6	6919	3.84004	7
6860	3.83632	7	6890	3.83822	6	6920	3.84011	6
6861	3.83639	6	6891	3.83828	7	6921	3.84017	6
6862	3.83645	6	6892	3.83835	6	6922	3.84023	6
6863	3.83651	7	6893	3.83841	6	6923	3.84029	7
6864	3.83658	6	6894	3.83847	6	6924	3.84036	6
6865	3.83664	6	6895	3.83853	7	6925	3.84042	6
6866	3.83670	7	6896	3.83860	6	6926	3.84048	7
6867	3.83677	6	6897	3.83866	6	6927	3.84055	6
6868	3.83683	6	6898	3.83872	7	6928	3.84061	6
6869	3.83689	7	6899	3.83879	6	6929	3.84067	6
6870	3.83696		6900	3.83885		6930	3.84073	

N.	1.55′30″ Log.	D.	N.	1.56′0″ Log.	D.	N.	1.56′30″ Log.	D.
6930	3.84073	7	6960	3.84261	6	6990	3.84448	6
6931	3.84080	6	6961	3.84267	6	6991	3.84454	6
6932	3.84086	6	6962	3.84273	7	6992	3.84460	6
6933	3.84092	6	6963	3.84280	6	6993	3.84466	7
6934	3.84098	7	6964	3.84286	6	6994	3.84473	6
6935	3.84105	6	6965	3.84292	6	6995	3.84479	6
6936	3.84111	6	6966	3.84298	7	6996	3.84485	6
6937	3.84117	6	6967	3.84305	6	6997	3.84491	6
6938	3.84123	7	6968	3.84311	6	6998	3.84497	7
6939	3.84130	6	6969	3.84317	6	6999	3.84504	6
6940	3.84136	6	6970	3.84323	7	7000	3.84510	6
6941	3.84142	6	6971	3.84330	6	7001	3.84516	6
6942	3.84148	7	6972	3.84336	6	7002	3.84522	6
6943	3.84155	6	6973	3.84342	6	7003	3.84528	7
6944	3.84161	6	6974	3.84348	6	7004	3.84535	6
6945	3.84167	6	6975	3.84354	7	7005	3.84541	6
6946	3.84173	7	6976	3.84361	6	7006	3.84547	6
6947	3.84180	6	6977	3.84367	6	7007	3.84553	6
6948	3.84186	6	6978	3.84373	6	7008	3.84559	7
6949	3.84192	6	6979	3.84379	7	7009	3.84566	6
6950	3.84198	7	6980	3.84386	6	7010	3.84572	6
6951	3.84205	6	6981	3.84392	6	7011	3.84578	6
6952	3.84211	6	6982	3.84398	6	7012	3.84584	6
6953	3.84217	6	6983	3.84404	6	7013	3.84590	7
6954	3.84223	7	6984	3.84410	7	7014	3.84597	6
6955	3.84230	6	6985	3.84417	6	7015	3.84603	6
6956	3.84236	6	6986	3.84423	6	7016	3.84609	6
6957	3.84242	6	6987	3.84429	6	7017	3.84615	6
6958	3.84248	7	6988	3.84435	7	7018	3.84621	7
6959	3.84255	6	6989	3.84442	6	7019	3.84628	6
6960	3.84261		6990	3.84448		7020	3.84634	

N.	1. 57′ 0″ Log.	D.	N.	1. 57′ 30″ Log.	D.	N.	1. 58′ 0″ Log.	D.
7020	3.84634	6	7050	3.84819	6	7080	3.85003	6
7021	3.84640	6	7051	3.84825	6	7081	3.85009	7
7022	3.84646	6	7052	3.84831	6	7082	3.85016	6
7023	3.84652	6	7053	3.84837	7	7083	3.85022	6
7024	3.84658	7	7054	3.84844	6	7084	3.85028	6
7025	3.84665	6	7055	3.84850	6	7085	3.85034	6
7026	3.84671	6	7056	3.84856	6	7086	3.85040	6
7027	3.84677	6	7057	3.84862	6	7087	3.85046	6
7028	3.84683	6	7058	3.84868	6	7088	3.85052	6
7029	3.84689	7	7059	3.84874	6	7089	3.85058	7
7030	3.84696	6	7060	3.84880	7	7090	3.85065	6
7031	3.84702	6	7061	3.84887	6	7091	3.85071	6
7032	3.84708	6	7062	3.84893	6	7092	3.85077	6
7033	3.84714	6	7063	3.84899	6	7093	3.85083	6
7034	3.84720	6	7064	3.84905	6	7094	3.85089	6
7035	3.84726	7	7065	3.84911	6	7095	3.85095	6
7036	3.84733	6	7066	3.84917	7	7096	3.85101	6
7037	3.84739	6	7067	3.84924	6	7097	3.85107	7
7038	3.84745	6	7068	3.84930	6	7098	3.85114	6
7039	3.84751	6	7069	3.84936	6	7099	3.85120	6
7040	3.84757	6	7070	3.84942	6	7100	3.85126	6
7041	3.84763	7	7071	3.84948	6	7101	3.85132	6
7042	3.84770	6	7072	3.84954	6	7102	3.85138	6
7043	3.84776	6	7073	3.84960	7	7103	3.85144	6
7044	3.84782	6	7074	3.84967	6	7104	3.85150	6
7045	3.84788	6	7075	3.84973	6	7105	3.85156	7
7046	3.84794	6	7076	3.84979	6	7106	3.85163	6
7047	3.84800	7	7077	3.84985	6	7107	3.85169	6
7048	3.84807	6	7078	3.84991	6	7108	3.85175	6
7049	3.84813	6	7079	3.84997	6	7109	3.85181	6
7050	3.84819		7080	3.85003		7110	3.85187	

N.	1. 58′ 30″ Log.	D.	N.	1. 59′ 0″ Log.	D.	N.	1. 59′ 30″ Log.	D.
7110	3.85187	6	7140	3.85370	6	7170	3.85552	6
7111	3.85193	6	7141	3.85376	6	7171	3.85558	6
7112	3.85199	6	7142	3.85382	6	7172	3.85564	6
7113	3.85205	6	7143	3.85388	6	7173	3.85570	6
7114	3.85211	6	7144	3.85394	6	7174	3.85576	6
7115	3.85217	7	7145	3.85400	6	7175	3.85582	6
7116	3.85224	6	7146	3.85406	6	7176	3.85588	6
7117	3.85230	6	7147	3.85412	6	7177	3.85594	6
7118	3.85236	6	7148	3.85418	7	7178	3.85600	6
7119	3.85242	6	7149	3.85425	6	7179	3.85606	6
7120	3.85248	6	7150	3.85431	6	7180	3.85612	6
7121	3.85254	6	7151	3.85437	6	7181	3.85618	7
7122	3.85260	6	7152	3.85443	6	7182	3.85625	6
7123	3.85266	6	7153	3.85449	6	7183	3.85631	6
7124	3.85272	6	7154	3.85455	6	7184	3.85637	6
7125	3.85278	7	7155	3.85461	6	7185	3.85643	6
7126	3.85285	6	7156	3.85467	6	7186	3.85649	6
7127	3.85291	6	7157	3.85473	6	7187	3.85655	6
7128	3.85297	6	7158	3.85479	6	7188	3.85661	6
7129	3.85303	6	7159	3.85485	6	7189	3.85667	6
7130	3.85309	6	7160	3.85491	6	7190	3.85673	6
7131	3.85315	6	7161	3.85497	6	7191	3.85679	6
7132	3.85321	6	7162	3.85503	6	7192	3.85685	6
7133	3.85327	6	7163	3.85509	7	7193	3.85691	6
7134	3.85333	6	7164	3.85516	6	7194	3.85697	6
7135	3.85339	6	7165	3.85522	6	7195	3.85703	6
7136	3.85345	7	7166	3.85528	6	7196	3.85709	6
7137	3.85352	6	7167	3.85534	6	7197	3.85715	6
7138	3.85358	6	7168	3.85540	6	7198	3.85721	6
7139	3.85364	6	7169	3.85546	6	7199	3.85727	6
7140	3.85370	6	7170	3.85552	6	7200	3.85733	6

N.	2. 0′ 0″ Log.	D.	N.	2. 0′ 30″ Log.	D.	N.	2. 1′ 0″ Log.	D.
7200	3.85733	6	7230	3.85914	6	7260	3.86094	6
7201	3.85739	6	7231	3.85920	6	7261	3.86100	6
7202	3.85745	6	7232	3.85926	6	7262	3.86106	6
7203	3.85751	6	7233	3.85932	6	7263	3.86112	6
7204	3.85757	6	7234	3.85938	6	7264	3.86118	6
7205	3.85763	6	7235	3.85944	6	7265	3.86124	6
7206	3.85769	6	7236	3.85950	6	7266	3.86130	6
7207	3.85775	6	7237	3.85956	6	7267	3.86136	5
7208	3.85781	7	7238	3.85962	6	7268	3.86141	6
7209	3.85788	6	7239	3.85968	6	7269	3.86147	6
7210	3.85794	6	7240	3.85974	6	7270	3.86153	6
7211	3.85800	6	7241	3.85980	6	7271	3.86159	6
7212	3.85806	6	7242	3.85986	6	7272	3.86165	6
7213	3.85812	6	7243	3.85992	6	7273	3.86171	6
7214	3.85818	6	7244	3.85998	6	7274	3.86177	6
7215	3.85824	6	7245	3.86004	6	7275	3.86183	6
7216	3.85830	6	7246	3.86010	6	7276	3.86189	6
7217	3.85836	6	7247	3.86016	6	7277	3.86195	6
7218	3.85842	6	7248	3.86022	6	7278	3.86201	6
7219	3.85848	6	7249	3.86028	6	7279	3.86207	6
7220	3.85854	6	7250	3.86034	6	7280	3.86213	6
7221	3.85860	6	7251	3.86040	6	7281	3.86219	6
7222	3.85866	6	7252	3.86046	6	7282	3.86225	6
7223	3.85872	6	7253	3.86052	6	7283	3.86231	6
7224	3.85878	6	7254	3.86058	6	7284	3.86237	6
7225	3.85884	6	7255	3.86064	6	7285	3.86243	6
7226	3.85890	6	7256	3.86070	6	7286	3.86249	6
7227	3.85896	6	7257	3.86076	6	7287	3.86255	6
7228	3.85902	6	7258	3.86082	6	7288	3.86261	6
7229	3.85908	6	7259	3.86088	6	7289	3.86267	6
7230	3.85914		7260	3.86094		7290	3.86273	

N.	2. 1′ 30″ Log.	D.	N.	2. 2′ 0″ Log.	D.	N.	2. 2′ 30″ Log.	D.
7290	3.86273	6	7320	3.86451	6	7350	3.86629	6
7291	3.86279	6	7321	3.86457	6	7351	3.86635	6
7292	3.86285	6	7322	3.86463	6	7352	3.86641	5
7293	3.86291	6	7323	3.86469	6	7353	3.86646	6
7294	3.86297	6	7324	3.86475	6	7354	3.86652	6
7295	3.86303	5	7325	3.86481	6	7355	3.86658	6
7296	3.86308	6	7326	3.86487	6	7356	3.86664	6
7297	3.86314	6	7327	3.86493	6	7357	3.86670	6
7298	3.86320	6	7328	3.86499	5	7358	3.86676	6
7299	3.86326	6	7329	3.86504	6	7359	3.86682	6
7300	3.86332	6	7330	3.86510	6	7360	3.86688	6
7301	3.86338	6	7331	3.86516	6	7361	3.86694	6
7302	3.86344	6	7332	3.86522	6	7362	3.86700	5
7303	3.86350	6	7333	3.86528	6	7363	3.86705	6
7304	3.86356	6	7334	3.86534	6	7364	3.86711	6
7305	3.86362	6	7335	3.86540	6	7365	3.86717	6
7306	3.86368	6	7336	3.86546	6	7366	3.86723	6
7307	3.86374	6	7337	3.86552	6	7367	3.86729	6
7308	3.86380	6	7338	3.86558	6	7368	3.86735	6
7309	3.86386	6	7339	3.86564	6	7369	3.86741	6
7310	3.86392	6	7340	3.86570	6	7370	3.86747	6
7311	3.86398	6	7341	3.86576	5	7371	3.86753	6
7312	3.86404	6	7342	3.86581	6	7372	3.86759	5
7313	3.86410	5	7343	3.86587	6	7373	3.86764	6
7314	3.86415	6	7344	3.86593	6	7374	3.86770	6
7315	3.86421	6	7345	3.86599	6	7375	3.86776	6
7316	3.86427	6	7346	3.86605	6	7376	3.86782	6
7317	3.86433	6	7347	3.86611	6	7377	3.86788	6
7318	3.86439	6	7348	3.86617	6	7378	3.86794	6
7319	3.86445	6	7349	3.86623	6	7379	3.86800	6
7320	3.86451		7350	3.86629		7380	3.86806	

N.	2. 3′ 0″ Log.	D.	N.	2. 3′ 30″ Log.	D.	N.	2. 4′ 0″ Log.	D.
7380	3.86806	6	7410	3.86982	6	7440	3.87157	6
7381	3.86812	5	7411	3.86988	6	7441	3.87163	6
7382	3.86817	6	7412	3.86994	5	7442	3.87169	6
7383	3.86823	6	7413	3.86999	6	7443	3.87175	6
7384	3.86829	6	7414	3.87005	6	7444	3.87181	5
7385	3.86835	6	7415	3.87011	6	7445	3.87186	6
7386	3.86841	6	7416	3.87017	6	7446	3.87192	6
7387	3.86847	6	7417	3.87023	6	7447	3.87198	6
7388	3.86853	6	7418	3.87029	6	7448	3.87204	6
7389	3.86859	5	7419	3.87035	5	7449	3.87210	6
7390	3.86864	6	7420	3.87040	6	7450	3.87216	5
7391	3.86870	6	7421	3.87046	6	7451	3.87221	6
7392	3.86876	6	7422	3.87052	6	7452	3.87227	6
7393	3.86882	6	7423	3.87058	6	7453	3.87233	6
7394	3.86888	6	7424	3.87064	6	7454	3.87239	6
7395	3.86894	6	7425	3.87070	5	7455	3.87245	6
7396	3.86900	6	7426	3.87075	6	7456	3.87251	5
7397	3.86906	5	7427	3.87081	6	7457	3.87256	6
7398	3.86911	6	7428	3.87087	6	7458	3.87262	6
7399	3.86917	6	7429	3.87093	6	7459	3.87268	6
7400	3.86923	6	7430	3.87099	6	7460	3.87274	6
7401	3.86929	6	7431	3.87105	6	7461	3.87280	6
7402	3.86935	6	7432	3.87111	5	7462	3.87286	5
7403	3.86941	6	7433	3.87116	6	7463	3.87291	6
7404	3.86947	6	7434	3.87122	6	7464	3.87297	6
7405	3.86953	5	7435	3.87128	6	7465	3.87303	6
7406	3.86958	6	7436	3.87134	6	7466	3.87309	6
7407	3.86964	6	7437	3.87140	6	7467	3.87315	5
7408	3.86970	6	7438	3.87146	5	7468	3.87320	6
7409	3.86976	6	7439	3.87151	6	7469	3.87326	6
7410	3.86982		7440	3.87157		7470	3.87332	

N.	2. 4′ 30″ Log.	D.	N.	2. 5′ 0″ Log.	D.	N.	2. 5′ 30″ Log.	D
7470	3.87332	6	7500	3.87506	6	7530	3.87679	6
7471	3.87338	6	7501	3.87512	6	7531	3.87685	6
7472	3.87344	5	7502	3.87518	5	7532	3.87691	6
7473	3.87349	6	7503	3.87523	6	7533	3.87697	6
7474	3.87355	6	7504	3.87529	6	7534	3.87703	5
7475	3.87361	6	7505	3.87535	6	7535	3.87708	6
7476	3.87367	6	7506	3.87541	6	7536	3.87714	6
7477	3.87373	6	7507	3.87547	5	7537	3.87720	6
7478	3.87379	5	7508	3.87552	6	7538	3.87726	5
7479	3.87384	6	7509	3.87558	6	7539	3.87731	6
7480	3.87390	6	7510	3.87564	6	7540	3.87737	6
7481	3.87396	6	7511	3.87570	6	7541	3.87743	6
7482	3.87402	6	7512	3.87576	5	7542	3.87749	5
7483	3.87408	5	7513	3.87581	6	7543	3.87754	6
7484	3.87413	6	7514	3.87587	6	7544	3.87760	6
7485	3.87419	6	7515	3.87593	6	7545	3.87766	6
7486	3.87425	6	7516	3.87599	5	7546	3.87772	5
7487	3.87431	6	7517	3.87604	6	7547	3.87777	6
7488	3.87437	5	7518	3.87610	6	7548	3.87783	6
7489	3.87442	6	7519	3.87616	6	7549	3.87789	6
7490	3.87448	6	7520	3.87622	6	7550	3.87795	5
7491	3.87454	6	7521	3.87628	5	7551	3.87800	6
7492	3.87460	6	7522	3.87633	6	7552	3.87806	6
7493	3.87466	5	7523	3.87639	6	7553	3.87812	6
7494	3.87471	6	7524	3.87645	6	7554	3.87818	5
7495	3.87477	6	7525	3.87651	5	7555	3.87823	6
7496	3.87483	6	7526	3.87656	6	7556	3.87829	6
7497	3.87489	6	7527	3.87662	6	7557	3.87835	6
7498	3.87495	5	7528	3.87668	6	7558	3.87841	5
7499	3.87500	6	7529	3.87674	5	7559	3.87846	6
7500	3.87506		7530	3.87679		7560	3.87952	

N.	2. 6′ 0″ Log.	D.	N.	2. 6′ 30″ Log.	D.	N.	2. 7′ 0″ Log.	D.
7560	3.87852	6	7590	3.88024	6	7620	3.88195	6
7561	3.87858	6	7591	3.88030	6	7621	3.88201	6
7562	3.87864	5	7592	3.88036	5	7622	3.88207	6
7563	3.87869	6	7593	3.88041	6	7623	3.88213	5
7564	3.87875	6	7594	3.88047	6	7624	3.88218	6
7565	3.87881	6	7595	3.88053	5	7625	3.88224	6
7566	3.87887	5	7596	3.88058	6	7626	3.88230	5
7567	3.87892	6	7597	3.88064	6	7627	3.88235	6
7568	3.87898	6	7598	3.88070	6	7628	3.88241	6
7569	3.87904	6	7599	3.88076	5	7629	3.88247	5
7570	3.87910	5	7600	3.88081	6	7630	3.88252	6
7571	3.87915	6	7601	3.88087	6	7631	3.88258	6
7572	3.87921	6	7602	3.88093	5	7632	3.88264	6
7573	3.87927	6	7603	3.88098	6	7633	3.88270	5
7574	3.87933	5	7604	3.88104	6	7634	3.88275	6
7575	3.87938	6	7605	3.88110	6	7635	3.88281	6
7576	3.87944	6	7606	3.88116	5	7636	3.88287	5
7577	3.87950	5	7607	3.88121	6	7637	3.88292	6
7578	3.87955	6	7608	3.88127	6	7638	3.88298	6
7579	3.87961	6	7609	3.88133	5	7639	3.88304	5
7580	3.87967	6	7610	3.88138	6	7640	3.88309	6
7581	3.87973	5	7611	3.88144	6	7641	3.88315	6
7582	3.87978	6	7612	3.88150	6	7642	3.88321	5
7583	3.87984	6	7613	3.88156	5	7643	3.88326	6
7584	3.87990	6	7614	3.88161	6	7644	3.88332	6
7585	3.87996	5	7615	3.88167	6	7645	3.88338	5
7586	3.88001	6	7616	3.88173	5	7646	3.88343	6
7587	3.88007	6	7617	3.88178	6	7647	3.88349	6
7588	3.88013	5	7618	3.88184	6	7648	3.88355	5
7589	3.88018	6	7619	3.88190	5	7649	3.88360	6
7590	3.88024		7620	3.88195		7650	3.88366	

N.	2. 7′ 30″ Log.	D.	N.	2. 8′ 0″ Log.	D.	N.	2. 8′ 30″ Log.	D.
7650	3.88366	6	7680	3.88536	6	7710	3.88705	6
7651	3.88372	5	7681	3.88542	5	7711	3.88711	6
7652	3.88377	6	7682	3.88547	6	7712	3.88717	5
7653	3.88383	6	7683	3.88553	6	7713	3.88722	6
7654	3.88389	6	7684	3.88559	5	7714	3.88728	6
7655	3.88395	5	7685	3.88564	6	7715	3.88734	5
7656	3.88400	6	7686	3.88570	6	7716	3.88739	6
7657	3.88406	6	7687	3.88576	5	7717	3.88745	5
7658	3.88412	5	7688	3.88581	6	7718	3.88750	6
7659	3.88417	6	7689	3.88587	6	7719	3.88756	6
7660	3.88423	6	7690	3.88593	5	7720	3.88762	5
7661	3.88429	5	7691	3.88598	6	7721	3.88767	6
7662	3.88434	6	7692	3.88604	6	7722	3.88773	6
7663	3.88440	6	7693	3.88610	5	7723	3.88779	5
7664	3.88446	5	7694	3.88615	6	7724	3.88784	6
7665	3.88451	6	7695	3.88621	6	7725	3.88790	5
7666	3.88457	6	7696	3.88627	5	7726	3.88795	6
7667	3.88463	5	7697	3.88632	6	7727	3.88801	6
7668	3.88468	6	7698	3.88638	5	7728	3.88807	5
7669	3.88474	6	7699	3.88643	6	7729	3.88812	6
7670	3.88480	5	7700	3.88649	6	7730	3.88818	6
7671	3.88485	6	7701	3.88655	5	7731	3.88824	5
7672	3.88491	6	7702	3.88660	6	7732	3.88829	6
7673	3.88497	5	7703	3.88666	6	7733	3.88835	5
7674	3.88502	6	7704	3.88672	5	7734	3.88840	6
7675	3.88508	5	7705	3.88677	6	7735	3.88846	6
7676	3.88513	6	7706	3.88683	6	7736	3.88852	5
7677	3.88519	6	7707	3.88689	5	7737	3.88857	6
7678	3.88525	5	7708	3.88694	6	7738	3.88863	5
7679	3.88530	6	7709	3.88700	5	7739	3.88868	6
7680	3.88536		7710	3.88705		7740	3.88874	

N.	2. 9′ 0″ Log.	D.	N.	2. 9′ 30″ Log.	D.	N.	2. 10′ 0″ Log.	D.
7740	3.88874	6	7770	3.89042	6	7800	3.89209	6
7741	3.88880	5	7771	3.89048	5	7801	3.89215	6
7742	3.88885	6	7772	3.89053	6	7802	3.89221	5
7743	3.88891	6	7773	3.89059	5	7803	3.89226	6
7744	3.88897	5	7774	3.89064	6	7804	3.89232	5
7745	3.88902	6	7775	3.89070	6	7805	3.89237	6
7746	3.88908	5	7776	3.89076	5	7806	3.89243	5
7747	3.88913	6	7777	3.89081	6	7807	3.89248	6
7748	3.88919	6	7778	3.89087	5	7808	3.89254	6
7749	3.88925	5	7779	3.89092	6	7809	3.89260	5
7750	3.88930	6	7780	3.89098	6	7810	3.89265	6
7751	3.88936	5	7781	3.89104	5	7811	3.89271	5
7752	3.88941	6	7782	3.89109	6	7812	3.89276	6
7753	3.88947	6	7783	3.89115	5	7813	3.89282	5
7754	3.88953	5	7784	3.89120	6	7814	3.89287	6
7755	3.88958	6	7785	3.89126	5	7815	3.89293	5
7756	3.88964	5	7786	3.89131	6	7816	3.89298	6
7757	3.88969	6	7787	3.89137	6	7817	3.89304	6
7758	3.88975	6	7788	3.89143	5	7818	3.89310	5
7759	3.88981	5	7789	3.89148	6	7819	3.89315	6
7760	3.88986	6	7790	3.89154	5	7820	3.89321	5
7761	3.88992	5	7791	3.89159	6	7821	3.89326	6
7762	3.88997	6	7792	3.89165	5	7822	3.89332	5
7763	3.89003	6	7793	3.89170	6	7823	3.89337	6
7764	3.89009	5	7794	3.89176	6	7824	3.89343	5
7765	3.89014	6	7795	3.89182	5	7825	3.89348	6
7766	3.89020	5	7796	3.89187	6	7826	3.89354	6
7767	3.89025	6	7797	3.89193	5	7827	3.89360	5
7768	3.89031	6	7798	3.89198	6	7828	3.89365	6
7769	3.89037	5	7799	3.89204	5	7829	3.89371	5
7770	3.89042		7800	3.89209		7830	3.89376	

N.	2.10′30″ Log.	D.	N.	2.11′0″ Log.	D.	N.	2.11′30″ Log.	D.
7830	3.89376	6	7860	3.89542	6	7890	3.89708	5
7831	3.89382	5	7861	3.89548	5	7891	3.89713	6
7832	3.89387	6	7862	3.89553	6	7892	3.89719	5
7833	3.89393	5	7863	3.89559	5	7893	3.89724	6
7834	3.89398	6	7864	3.89564	6	7894	3.89730	5
7835	3.89404	5	7865	3.89570	5	7895	3.89735	6
7836	3.89409	6	7866	3.89575	6	7896	3.89741	5
7837	3.89415	6	7867	3.89581	5	7897	3.89746	6
7838	3.89421	5	7868	3.89586	6	7898	3.89752	5
7839	3.89426	6	7869	3.89592	5	7899	3.89757	6
7840	3.89432	5	7870	3.89597	6	7900	3.89763	5
7841	3.89437	6	7871	3.89603	6	7901	3.89768	6
7842	3.89443	5	7872	3.89609	5	7902	3.89774	5
7843	3.89448	6	7873	3.89614	6	7903	3.89779	6
7844	3.89454	5	7874	3.89620	5	7904	3.89785	5
7845	3.89459	6	7875	3.89625	6	7905	3.89790	6
7846	3.89465	5	7876	3.89631	5	7906	3.89796	5
7847	3.89470	6	7877	3.89636	6	7907	3.89801	6
7848	3.89476	5	7878	3.89642	5	7908	3.89807	5
7849	3.89481	6	7879	3.89647	6	7909	3.89812	6
7850	3.89487	5	7880	3.89653	5	7910	3.89818	5
7851	3.89492	6	7881	3.89658	6	7911	3.89823	6
7852	3.89498	6	7882	3.89664	5	7912	3.89829	5
7853	3.89504	5	7883	3.89669	6	7913	3.89834	6
7854	3.89509	6	7884	3.89675	5	7914	3.89840	5
7855	3.89515	5	7885	3.89680	6	7915	3.89845	6
7856	3.89520	6	7886	3.89686	5	7916	3.89851	5
7857	3.89526	5	7887	3.89691	6	7917	3.89856	6
7858	3.89531	6	7888	3.89697	5	7918	3.89862	5
7859	3.89537	5	7889	3.89702	6	7919	3.89867	6
7860	3.89542		7890	3.89708		7920	3.89873	

N.	2. 12′ 0″ Log.	D.
7920	3.89873	5
7921	3.89878	5
7922	3.89883	6
7923	3.89889	5
7924	3.89894	6
7925	3.89900	5
7926	3.89905	6
7927	3.89911	5
7928	3.89916	6
7929	3.89922	5
7930	3.89927	6
7931	3.89933	5
7932	3.89938	6
7933	3.89944	5
7934	3.89949	6
7935	3.89955	5
7936	3.89960	6
7937	3.89966	5
7938	3.89971	6
7939	3.89977	5
7940	3.89982	6
7941	3.89988	5
7942	3.89993	5
7943	3.89998	6
7944	3.90004	5
7945	3.90009	6
7946	3.90015	5
7947	3.90020	6
7948	3.90026	5
7949	3.90031	6
7950	3.90037	

N.	2. 12′ 30″ Log.	D.
7950	3.90037	5
7951	3.90042	6
7952	3.90048	5
7953	3.90053	6
7954	3.90059	5
7955	3.90064	5
7956	3.90069	6
7957	3.90075	5
7958	3.90080	6
7959	3.90086	5
7960	3.90091	6
7961	3.90097	5
7962	3.90102	6
7963	3.90108	5
7964	3.90113	6
7965	3.90119	5
7966	3.90124	5
7967	3.90129	6
7968	3.90135	5
7969	3.90140	6
7970	3.90146	5
7971	3.90151	6
7972	3.90157	5
7973	3.90162	6
7974	3.90168	5
7975	3.90173	6
7976	3.90179	5
7977	3.90184	5
7978	3.90189	6
7979	3.90195	5
7980	3.90200	

N.	2. 13′ 0″ Log.	D.
7980	3.90200	6
7981	3.90206	5
7982	3.90211	6
7983	3.90217	5
7984	3.90222	5
7985	3.90227	6
7986	3.90233	5
7987	3.90238	6
7988	3.90244	5
7989	3.90249	6
7990	3.90255	5
7991	3.90260	6
7992	3.90266	5
7993	3.90271	5
7994	3.90276	6
7995	3.90282	5
7996	3.90287	6
7997	3.90293	5
7998	3.90298	6
7999	3.90304	5
8000	3.90309	5
8001	3.90314	6
8002	3.90320	5
8003	3.90325	6
8004	3.90331	5
8005	3.90336	6
8006	3.90342	5
8007	3.90347	5
8008	3.90352	6
8009	3.90358	5
8010	3.90363	

N.	2. 13′ 30″ Log.	D.	N.	2. 14′ 0″ Log.	D.	N.	2. 14′ 30″ Log.	D.
8010	3.90363	6	8040	3.90526	5	8070	3.90687	6
8011	3.90369	5	8041	3.90531	5	8071	3.90693	5
8012	3.90374	6	8042	3.90536	6	8072	3.90698	5
8013	3.90380	5	8043	3.90542	5	8073	3.90703	6
8014	3.90385	5	8044	3.90547	6	8074	3.90709	5
8015	3.90390	6	8045	3.90553	5	8075	3.90714	6
8016	3.90396	5	8046	3.90558	5	8076	3.90720	5
8017	3.90401	6	8047	3.90563	6	8077	3.90725	5
8018	3.90407	5	8048	3.90569	5	8078	3.90730	6
8019	3.90412	5	8049	3.90574	6	8079	3.90736	5
8020	3.90417	6	8050	3.90580	5	8080	3.90741	6
8021	3.90423	5	8051	3.90585	5	8081	3.90747	5
8022	3.90428	6	8052	3.90590	6	8082	3.90752	5
8023	3.90434	5	8053	3.90596	5	8083	3.90757	6
8024	3.90439	6	8054	3.90601	6	8084	3.90763	5
8025	3.90445	5	8055	3.90607	5	8085	3.90768	5
8026	3.90450	5	8056	3.90612	5	8086	3.90773	6
8027	3.90455	6	8057	3.90617	6	8087	3.90779	5
8028	3.90461	5	8058	3.90623	5	8088	3.90784	5
8029	3.90466	6	8059	3.90628	6	8089	3.90789	6
8030	3.90472	5	8060	3.90634	5	8090	3.90795	5
8031	3.90477	5	8061	3.90639	5	8091	3.90800	6
8032	3.90482	6	8062	3.90644	6	8092	3.90806	5
8033	3.90488	5	8063	3.90650	5	8093	3.90811	5
8034	3.90493	6	8064	3.90655	5	8094	3.90816	6
8035	3.90499	5	8065	3.90660	6	8095	3.90822	5
8036	3.90504	5	8066	3.90666	5	8096	3.90827	5
8037	3.90509	6	8067	3.90671	6	8097	3.90832	6
8038	3.90515	5	8068	3.90677	5	8098	3.90838	5
8039	3.90520	6	8069	3.90682	5	8099	3.90843	6
8040	3.90526		8070	3.90687		8100	3.90849	

N.	2. 15′ 0″ Log.	D.	N.	2. 15′ 30″ Log.	D.	N.	2. 16′ 0″ Log.	D
8100	3.90849	5	8130	3.91009	5	8160	3.91169	5
8101	3.90854	5	8131	3.91014	6	8161	3.91174	6
8102	3.90859	6	8132	3.91020	5	8162	3.91180	5
8103	3.90865	5	8133	3.91025	5	8163	3.91185	5
8104	3.90870	5	8134	3.91030	6	8164	3.91190	6
8105	3.90875	6	8135	3.91036	5	8165	3.91196	5
8106	3.90881	5	8136	3.91041	5	8166	3.91201	5
8107	3.90886	5	8137	3.91046	6	8167	3.91206	6
8108	3.90891	6	8138	3.91052	5	8168	3.91212	5
8109	3.90897	5	8139	3.91057	5	8169	3.91217	5
8110	3.90902	5	8140	3.91062	6	8170	3.91222	6
8111	3.90907	6	8141	3.91068	5	8171	3.91228	5
8112	3.90913	5	8142	3.91073	5	8172	3.91233	5
8113	3.90918	6	8143	3.91078	6	8173	3.91238	5
8114	3.90924	5	8144	3.91084	5	8174	3.91243	6
8115	3.90929	5	8145	3.91089	5	8175	3.91249	5
8116	3.90934	6	8146	3.91094	6	8176	3.91254	5
8117	3.90940	5	8147	3.91100	5	8177	3.91259	6
8118	3.90945	5	8148	3.91105	5	8178	3.91265	5
8119	3.90950	6	8149	3.91110	6	8179	3.91270	5
8120	3.90956	5	8150	3.91116	5	8180	3.91275	6
8121	3.90961	5	8151	3.91121	5	8181	3.91281	5
8122	3.90966	6	8152	3.91126	6	8182	3.91286	5
8123	3.90972	5	8153	3.91132	5	8183	3.91291	6
8124	3.90977	5	8154	3.91137	5	8184	3.91297	5
8125	3.90982	6	8155	3.91142	6	8185	3.91302	5
8126	3.90988	5	8156	3.91148	5	8186	3.91307	5
8127	3.90993	5	8157	3.91153	5	8187	3.91312	6
8128	3.90998	6	8158	3.91158	6	8188	3.91318	5
8129	3.91004	5	8159	3.91164	5	8189	3.91323	5
8130	3.91009		8160	3.91169		8190	3.91328	

N.	2. 16′ 30″ Log.	D.	N.	2. 17′ 0″ Log.	D.	N.	2. 17′ 30″ Log.	D.
8190	3.91328	6	8220	3.91487	5	8250	3.91645	6
8191	3.91334	5	8221	3.91492	6	8251	3.91651	5
8192	3.91339	5	8222	3.91498	5	8252	3.91656	5
8193	3.91344	6	8223	3.91503	5	8253	3.91661	5
8194	3.91350	5	8224	3.91508	6	8254	3.91666	6
8195	3.91355	5	8225	3.91514	5	8255	3.91672	5
8196	3.91360	5	8226	3.91519	5	8256	3.91677	5
8197	3.91365	6	8227	3.91524	5	8257	3.91682	5
8198	3.91371	5	8228	3.91529	6	8258	3.91687	6
8199	3.91376	5	8229	3.91535	5	8259	3.91693	5
8200	3.91381	6	8230	3.91540	5	8260	3.91698	5
8201	3.91387	5	8231	3.91545	6	8261	3.91703	6
8202	3.91392	5	8232	3.91551	5	8262	3.91709	5
8203	3.91397	6	8233	3.91556	5	8263	3.91714	5
8204	3.91403	5	8234	3.91561	5	8264	3.91719	5
8205	3.91408	5	8235	3.91566	6	8265	3.91724	6
8206	3.91413	5	8236	3.91572	5	8266	3.91730	5
8207	3.91418	6	8237	3.91577	5	8267	3.91735	5
8208	3.91424	5	8238	3.91582	5	8268	3.91740	5
8209	3.91429	5	8239	3.91587	6	8269	3.91745	6
8210	3.91434	6	8240	3.91593	5	8270	3.91751	5
8211	3.91440	5	8241	3.91598	5	8271	3.91756	5
8212	3.91445	5	8242	3.91603	6	8272	3.91761	5
8213	3.91450	5	8243	3.91609	5	8273	3.91766	6
8214	3.91455	6	8244	3.91614	5	8274	3.91772	5
8215	3.91461	5	8245	3.91619	5	8275	3.91777	5
8216	3.91466	5	8246	3.91624	6	8276	3.91782	5
8217	3.91471	6	8247	3.91630	5	8277	3.91787	6
8218	3.91477	5	8248	3.91635	5	8278	3.91793	5
8219	3.91482	5	8249	3.91640	5	8279	3.91798	5
8220	3.91487		8250	3.91645		8280	3.91803	

N.	2. 18 0″ Log.	D.	N.	2. 18′ 30″ Log.	D.	N.	2. 19′ 0″ Log.	D.
8280	3.91803	5	8310	3.91960	5	8340	3.92117	5
8281	3.91808	6	8311	3.91965	6	8341	3.92122	5
8282	3.91814	5	8312	3.91971	5	8342	3.92127	5
8283	3.91819	5	8313	3.91976	5	8343	3.92132	5
8284	3.91824	5	8314	3.91981	5	8344	3.92137	6
8285	3.91829	5	8315	3.91986	5	8345	3.92143	5
8286	3.91834	6	8316	3.91991	6	8346	3.92148	5
8287	3.91840	5	8317	3.91997	5	8347	3.92153	5
8288	3.91845	5	8318	3.92002	5	8348	3.92158	5
8289	3.91850	5	8319	3.92007	5	8349	3.92163	6
8290	3.91855	6	8320	3.92012	6	8350	3.92169	5
8291	3.91861	5	8321	3.92018	5	8351	3.92174	5
8292	3.91866	5	8322	3.92023	5	8352	3.92179	5
8293	3.91871	5	8323	3.92028	5	8353	3.92184	5
8294	3.91876	6	8324	3.92033	5	8354	3.92189	6
8295	3.91882	5	8325	3.92038	6	8355	3.92195	5
8296	3.91887	5	8326	3.92044	5	8356	3.92200	5
8297	3.91892	5	8327	3.92049	5	8357	3.92205	5
8298	3.91897	6	8328	3.92054	5	8358	3.92210	5
8299	3.91903	5	8329	3.92059	6	8359	3.92215	6
8300	3.91908	5	8330	3.92065	5	8360	3.92221	5
8301	3.91913	5	8331	3.92070	5	8361	3.92226	5
8302	3.91918	6	8332	3.92075	5	8362	3.92231	5
8303	3.91924	5	8333	3.92080	5	8363	3.92236	5
8304	3.91929	5	8334	3.92085	6	8364	3.92241	6
8305	3.91934	5	8335	3.92091	5	8365	3.92247	5
8306	3.91939	5	8336	3.92096	5	8366	3.92252	5
8307	3.91944	6	8337	3.92101	5	8367	3.92257	5
8308	3.91950	5	8338	3.92106	5	8368	3.92262	5
8309	3.91955	5	8339	3.92111	6	8369	3.92267	6
8310	3.91960		8340	3.92117		8370	3.92273	

N.	2.19'30" Log.	D.	N.	2.20'0" Log.	D.	N.	2.20'30" Log.	D.
8370	3.92273	5	8400	3.92428	5	8430	3.92583	5
8371	3.92278	5	8401	3.92433	5	8431	3.92588	5
8372	3.92283	5	8402	3.92438	5	8432	3.92593	5
8373	3.92288	5	8403	3.92443	6	8433	3.92598	5
8374	3.92293	5	8404	3.92449	5	8434	3.92603	6
8375	3.92298	6	8405	3.92454	5	8435	3.92609	5
8376	3.92304	5	8406	3.92459	5	8436	3.92614	5
8377	3.92309	5	8407	3.92464	5	8437	3.92619	5
8378	3.92314	5	8408	3.92469	5	8438	3.92624	5
8379	3.92319	5	8409	3.92474	6	8439	3.92629	5
8380	3.92324	6	8410	3.92480	5	8440	3.92634	5
8381	3.92330	5	8411	3.92485	5	8441	3.92639	6
8382	3.92335	5	8412	3.92490	5	8442	3.92645	5
8383	3.92340	5	8413	3.92495	5	8443	3.92650	5
8384	3.92345	5	8414	3.92500	5	8444	3.92655	5
8385	3.92350	5	8415	3.92505	6	8445	3.92660	5
8386	3.92355	6	8416	3.92511	5	8446	3.92665	5
8387	3.92361	5	8417	3.92516	5	8447	3.92670	5
8388	3.92366	5	8418	3.92521	5	8448	3.92675	6
8389	3.92371	5	8419	3.92526	5	8449	3.92681	5
8390	3.92376	5	8420	3.92531	5	8450	3.92686	5
8391	3.92381	6	8421	3.92536	6	8451	3.92691	5
8392	3.92387	5	8422	3.92542	5	8452	3.92696	5
8393	3.92392	5	8423	3.92547	5	8453	3.92701	5
8394	3.92397	5	8424	3.92552	5	8454	3.92706	5
8395	3.92402	5	8425	3.92557	5	8455	3.92711	5
8396	3.92407	5	8426	3.92562	5	8456	3.92716	6
8397	3.92412	6	8427	3.92567	5	8457	3.92722	5
8398	3.92418	5	8428	3.92572	6	8458	3.92727	5
8399	3.92423	5	8429	3.92578	5	8459	3.92732	5
8400	3.92428		8430	3.92583		8460	3.92737	

N.	2. 21′ 0″ Log.	D.	N.	2. 21′ 30″ Log.	D.	N.	2. 22′ 0″ Log.	D.
8460	3.92737	5	8490	3.92891	5	8520	3.93044	5
8461	3.92742	5	8491	3.92896	5	8521	3.93049	5
8462	3.92747	5	8492	3.92901	5	8522	3.93054	5
8463	3.92752	6	8493	3.92906	5	8523	3.93059	5
8464	3.92758	5	8494	3.92911	5	8524	3.93064	5
8465	3.92763	5	8495	3.92916	5	8525	3.93069	6
8466	3.92768	5	8496	3.92921	6	8526	3.93075	5
8467	3.92773	5	8497	3.92927	5	8527	3.93080	5
8468	3.92778	5	8498	3.92932	5	8528	3.93085	5
8469	3.92783	5	8499	3.92937	5	8529	3.93090	5
8470	3.92788	5	8500	3.92942	5	8530	3.93095	5
8471	3.92793	6	8501	3.92947	5	8531	3.93100	5
8472	3.92799	5	8502	3.92952	5	8532	3.93105	5
8473	3.92804	5	8503	3.92957	5	8533	3.93110	5
8474	3.92809	5	8504	3.92962	5	8534	3.93115	5
8475	3.92814	5	8505	3.92967	6	8535	3.93120	5
8476	3.92819	5	8506	3.92973	5	8536	3.93125	6
8477	3.92824	5	8507	3.92978	5	8537	3.93131	5
8478	3.92829	5	8508	3.92983	5	8538	3.93136	5
8479	3.92834	6	8509	3.92988	5	8539	3.93141	5
8480	3.92840	5	8510	3.92993	5	8540	3.93146	5
8481	3.92845	5	8511	3.92998	5	8541	3.93151	5
8482	3.92850	5	8512	3.93003	5	8542	3.93156	5
8483	3.92855	5	8513	3.93008	5	8543	3.93161	5
8484	3.92860	5	8514	3.93013	5	8544	3.93166	5
8485	3.92865	5	8515	3.93018	6	8545	3.93171	5
8486	3.92870	5	8516	3.93024	5	8546	3.93176	5
8487	3.92875	6	8517	3.93029	5	8547	3.93181	5
8488	3.92881	5	8518	3.93034	5	8548	3.93186	6
8489	3.92886	5	8519	3.93039	5	8549	3.93192	5
8490	3.92891		8520	3.93044		8550	3.93197	

N.	2. 22′ 30″ Log.	D.	N.	2. 23′ 0″ Log.	D.	N.	2. 23′ 30″ Log.	D.
8550	3.93197	5	8580	3.93349	5	8610	3.93500	5
8551	3.93202	5	8581	3.93354	5	8611	3.93505	5
8552	3.93207	5	8582	3.93359	5	8612	3.93510	5
8553	3.93212	5	8583	3.93364	5	8613	3.93515	5
8554	3.93217	5	8584	3.93369	5	8614	3.93520	6
8555	3.93222	5	8585	3.93374	5	8615	3.93526	5
8556	3.93227	5	8586	3.93379	5	8616	3.93531	5
8557	3.93232	5	8587	3.93384	5	8617	3.93536	5
8558	3.93237	5	8588	3.93389	5	8618	3.93541	5
8559	3.93242	5	8589	3.93394	5	8619	3.93546	5
8560	3.93247	5	8590	3.93399	5	8620	3.93551	5
8561	3.93252	6	8591	3.93404	5	8621	3.93556	5
8562	3.93258	5	8592	3.93409	5	8622	3.93561	5
8563	3.93263	5	8593	3.93414	6	8623	3.93566	5
8564	3.93268	5	8594	3.93420	5	8624	3.93571	5
8565	3.93273	5	8595	3.93425	5	8625	3.93576	5
8566	3.93278	5	8596	3.93430	5	8626	3.93581	5
8567	3.93283	5	8597	3.93435	5	8627	3.93586	5
8568	3.93288	5	8598	3.93440	5	8628	3.93591	5
8569	3.93293	5	8599	3.93445	5	8629	3.93596	5
8570	3.93298	5	8600	3.93450	5	8630	3.93601	5
8571	3.93303	5	8601	3.93455	5	8631	3.93606	5
8572	3.93308	5	8602	3.93460	5	8632	3.93611	5
8573	3.93313	5	8603	3.93465	5	8633	3.93616	5
8574	3.93318	5	8604	3.93470	5	8634	3.93621	5
8575	3.93323	5	8605	3.93475	5	8635	3.93626	5
8576	3.93328	6	8606	3.93480	5	8636	3.93631	5
8577	3.93334	5	8607	3.93485	5	8637	3.93636	5
8578	3.93339	5	8608	3.93490	5	8638	3.93641	5
8579	3.93344	5	8609	3.93495	5	8639	3.93646	5
8580	3.93349		8610	3.93500		8640	3.93651	

N.	2. 24′ 0″ Log.	D.	N.	2. 24′ 30″ Log.	D	N.	2. 25′ 0″ Log.	D.
8640	3.93651	5	8670	3.93802	5	8700	3.93952	5
8641	3.93656	5	8671	3.93807	5	8701	3.93957	5
8642	3.93661	5	8672	3.93812	5	8702	3.93962	5
8643	3.93666	5	8673	3.93817	5	8703	3.93967	5
8644	3.93671	5	8674	3.93822	5	8704	3.93972	5
8645	3.93676	6	8675	3.93827	5	8705	3.93977	5
8646	3.93682	5	8676	3.93832	5	8706	3.93982	5
8647	3.93687	5	8677	3.93837	5	8707	3.93987	5
8648	3.93692	5	8678	3.93842	5	8708	3.93992	5
8649	3.93697	5	8679	3.93847	5	8709	3.93997	5
8650	3.93702	5	8680	3.93852	5	8710	3.94002	5
8651	3.93707	5	8681	3.93857	5	8711	3.94007	5
8652	3.93712	5	8682	3.93862	5	8712	3.94012	5
8653	3.93717	5	8683	3.93867	5	8713	3.94017	5
8654	3.93722	5	8684	3.93872	5	8714	3.94022	5
8655	3.93727	5	8685	3.93877	5	8715	3.94027	5
8656	3.93732	5	8686	3.93882	5	8716	3.94032	5
8657	3.93737	5	8687	3.93887	5	8717	3.94037	5
8658	3.93742	5	8688	3.93892	5	8718	3.94042	5
8659	3.93747	5	8689	3.93897	5	8719	3.94047	5
8660	3.93752	5	8690	3.93902	5	8720	3.94052	5
8661	3.93757	5	8691	3.93907	5	8721	3.94057	5
8662	3.93762	5	8692	3.93912	5	8722	3.94062	5
8663	3.93767	5	8693	3.93917	5	8723	3.94067	5
8664	3.93772	5	8694	3.93922	5	8724	3.94072	5
8665	3.93777	5	8695	3.93927	5	8725	3.94077	5
8666	3.93782	5	8696	3.93932	5	8726	3.94082	4
8667	3.93787	5	8697	3.93937	5	8727	3.94086	5
8668	3.93792	5	8698	3.93942	5	8728	3.94091	5
8669	3.93797	5	8699	3.93947	5	8729	3.94096	5
8670	3.93802		8700	3.93952		8730	3.94101	

N.	2. 25′ 30″ Log.	D.	N.	2. 26′ 0″ Log.	D.	N.	2. 26′ 30″ Log.	D.
8730	3.94101	5	8760	3.94250	5	8790	3.94399	5
8731	3.94106	5	8761	3.94255	5	8791	3.94404	5
8732	3.94111	5	8762	3.94260	5	8792	3.94409	5
8733	3.94116	5	8763	3.94265	5	8793	3.94414	5
8734	3.94121	5	8764	3.94270	5	8794	3.94419	5
8735	3.94126	5	8765	3.94275	5	8795	3.94424	5
8736	3.94131	5	8766	3.94280	5	8796	3.94429	4
8737	3.94136	5	8767	3.94285	5	8797	3.94433	5
8738	3.94141	5	8768	3.94290	5	8798	3.94438	5
8739	3.94146	5	8769	3.94295	5	8799	3.94443	5
8740	3.94151	5	8770	3.94300	5	8800	3.94448	5
8741	3.94156	5	8771	3.94305	5	8801	3.94453	5
8742	3.94161	5	8772	3.94310	5	8802	3.94458	5
8743	3.94166	5	8773	3.94315	5	8803	3.94463	5
8744	3.94171	5	8774	3.94320	5	8804	3.94468	5
8745	3.94176	5	8775	3.94325	5	8805	3.94473	5
8746	3.94181	5	8776	3.94330	5	8806	3.94478	5
8747	3.94186	5	8777	3.94335	5	8807	3.94483	5
8748	3.94191	5	8778	3.94340	5	8808	3.94488	5
8749	3.94196	5	8779	3.94345	4	8809	3.94493	5
8750	3.94201	5	8780	3.94349	5	8810	3.94498	5
8751	3.94206	5	8781	3.94354	5	8811	3.94503	4
8752	3.94211	5	8782	3.94359	5	8812	3.94507	5
8753	3.94216	5	8783	3.94364	5	8813	3.94512	5
8754	3.94221	5	8784	3.94369	5	8814	3.94517	5
8755	3.94226	5	8785	3.94374	5	8815	3.94522	5
8756	3.94231	5	8786	3.94379	5	8816	3.94527	5
8757	3.94236	4	8787	3.94384	5	8817	3.94532	5
8758	3.94240	5	8788	3.94389	5	8818	3.94537	5
8759	3.94245	5	8789	3.94394	5	8819	3.94542	5
8760	3.94250		8790	3.94399		8820	3.94547	

N.	2. 27′ 0″ Log.	D.	N.	2. 27′ 30″ Log.	D.	N.	2. 28′ 0″ Log.	D.
8820	3.94547	5	8850	3.94694	5	8880	3.94841	5
8821	3.94552	5	8851	3.94699	5	8881	3.94846	5
8822	3.94557	5	8852	3.94704	5	8882	3.94851	5
8823	3.94562	5	8853	3.94709	5	8883	3.94856	5
8824	3.94567	4	8854	3.94714	5	8884	3.94861	5
8825	3.94571	5	8855	3.94719	5	8885	3.94866	5
8826	3.94576	5	8856	3.94724	5	8886	3.94871	5
8827	3.94581	5	8857	3.94729	5	8887	3.94876	4
8828	3.94586	5	8858	3.94734	4	8888	3.94880	5
8829	3.94591	5	8859	3.94738	5	8889	3.94885	5
8830	3.94596	5	8860	3.94743	5	8890	3.94890	5
8831	3.94601	5	8861	3.94748	5	8891	3.94895	5
8832	3.94606	5	8862	3.94753	5	8892	3.94900	5
8833	3.94611	5	8863	3.94758	5	8893	3.94905	5
8834	3.94616	5	8864	3.94763	5	8894	3.94910	5
8835	3.94621	5	8865	3.94768	5	8895	3.94915	4
8836	3.94626	4	8866	3.94773	5	8896	3.94919	5
8837	3.94630	5	8867	3.94778	5	8897	3.94924	5
8838	3.94635	5	8868	3.94783	4	8898	3.94929	5
8839	3.94640	5	8869	3.94787	5	8899	3.94934	5
8840	3.94645	5	8870	3.94792	5	8900	3.94939	5
8841	3.94650	5	8871	3.94797	5	8901	3.94944	5
8842	3.94655	5	8872	3.94802	5	8902	3.94949	5
8843	3.94660	5	8873	3.94807	5	8903	3.94954	5
8844	3.94665	5	8874	3.94812	5	8904	3.94959	4
8845	3.94670	5	8875	3.94817	5	8905	3.94963	5
8846	3.94675	5	8876	3.94822	5	8906	3.94968	5
8847	3.94680	5	8877	3.94827	5	8907	3.94973	5
8848	3.94685	4	8878	3.94832	4	8908	3.94978	5
8849	3.94689	5	8879	3.94836	5	8909	3.94983	5
8850	3.94694		8880	3.94841		8910	3.94988	

N.	2. 28′ 30″ Log.	D.	N.	2. 29′ 0″ Log.	D.	N.	2. 29′ 30″ Log.	D
8910	3.94988	5	8940	3.95134	5	8970	3.95279	5
8911	3.94993	5	8941	3.95139	4	8971	3.95284	5
8912	3.94998	4	8942	3.95143	5	8972	3.95289	5
8913	3.95002	5	8943	3.95148	5	8973	3.95294	5
8914	3.95007	5	8944	3.95153	5	8974	3.95299	4
8915	3.95012	5	8945	3.95158	5	8975	3.95303	5
8916	3.95017	5	8946	3.95163	5	8976	3.95308	5
8917	3.95022	5	8947	3.95168	5	8977	3.95313	5
8918	3.95027	5	8948	3.95173	4	8978	3.95318	5
8919	3.95032	4	8949	3.95177	5	8979	3.95323	5
8920	3.95036	5	8950	3.95182	5	8980	3.95328	4
8921	3.95041	5	8951	3.95187	5	8981	3.95332	5
8922	3.95046	5	8952	3.95192	5	8982	3.95337	5
8923	3.95051	5	8953	3.95197	5	8983	3.95342	5
8924	3.95056	5	8954	3.95202	5	8984	3.95347	5
8925	3.95061	5	8955	3.95207	4	8985	3.95352	5
8926	3.95066	5	8956	3.95211	5	8986	3.95357	4
8927	3.95071	4	8957	3.95216	5	8987	3.95361	5
8928	3.95075	5	8958	3.95221	5	8988	3.95366	5
8929	3.95080	5	8959	3.95226	5	8989	3.95371	5
8930	3.95085	5	8960	3.95231	5	8990	3.95376	5
8931	3.95090	5	8961	3.95236	4	8991	3.95381	5
8932	3.95095	5	8962	3.95240	5	8992	3.95386	4
8933	3.95100	5	8963	3.95245	5	8993	3.95390	5
8934	3.95105	4	8964	3.95250	5	8994	3.95395	5
8935	3.95109	5	8965	3.95255	5	8995	3.95400	5
8936	3.95114	5	8966	3.95260	5	8996	3.95405	5
8937	3.95119	5	8967	3.95265	5	8997	3.95410	5
8938	3.95124	5	8968	3.95270	4	8998	3.95415	4
8939	3.95129	5	8969	3.95274	5	8999	3.95419	5
8940	3.95134		8970	3.95279		9000	3.95424	

N.	2. 30′ 0″ Log.	D.	N.	2. 30′ 30″ Log.	D.	N.	2. 31′ 0″ Log.	D.
9000	3.95424	5	9030	3.95569	5	9060	3.95713	5
9001	3.95429	5	9031	3.95574	4	9061	3.95718	4
9002	3.95434	5	9032	3.95578	5	9062	3.95722	5
9003	3.95439	5	9033	3.95583	5	9063	3.95727	5
9004	3.95444	4	9034	3.95588	5	9064	3.95732	5
9005	3.95448	5	9035	3.95593	5	9065	3.95737	5
9006	3.95453	5	9036	3.95598	4	9066	3.95742	4
9007	3.95458	5	9037	3.95602	5	9067	3.95746	5
9008	3.95463	5	9038	3.95607	5	9068	3.95751	5
9009	3.95468	4	9039	3.95612	5	9069	3.95756	5
9010	3.95472	5	9040	3.95617	5	9070	3.95761	5
9011	3.95477	5	9041	3.95622	4	9071	3.95766	4
9012	3.95482	5	9042	3.95626	5	9072	3.95770	5
9013	3.95487	5	9043	3.95631	5	9073	3.95775	5
9014	3.95492	5	9044	3.95636	5	9074	3.95780	5
9015	3.95497	4	9045	3.95641	5	9075	3.95785	4
9016	3.95501	5	9046	3.95646	4	9076	3.95789	5
9017	3.95506	5	9047	3.95650	5	9077	3.95794	5
9018	3.95511	5	9048	3.95655	5	9078	3.95799	5
9019	3.95516	5	9049	3.95660	5	9079	3.95804	5
9020	3.95521	4	9050	3.95665	5	9080	3.95809	4
9021	3.95525	5	9051	3.95670	4	9081	3.95813	5
9022	3.95530	5	9052	3.95674	5	9082	3.95818	5
9023	3.95535	5	9053	3.95679	5	9083	3.95823	5
9024	3.95540	5	9054	3.95684	5	9084	3.95828	4
9025	3.95545	5	9055	3.95689	5	9085	3.95832	5
9026	3.95550	4	9056	3.95694	4	9086	3.95837	5
9027	3.95554	5	9057	3.95698	5	9087	3.95842	5
9028	3.95559	5	9058	3.95703	5	9088	3.95847	5
9029	3.95564	5	9059	3.95708	5	9089	3.95852	4
9030	3.95569		9060	3.95713		9090	3.95856	

N.	2. 31′ 30″ Log.	D.	N.	2. 32′ 0″ Log.	D.	N.	2. 32′ 30″ Log.	D.
9090	3.95856		9120	3.95999		9150	3.96142	
9091	3.95861	5	9121	3.96004	5	9151	3.96147	5
9092	3.95866	5	9122	3.96009	5	9152	3.96152	5
9093	3.95871	5	9123	3.96014	5	9153	3.96156	4
9094	3.95875	4	9124	3.96019	5	9154	3.96161	5
9095	3.95880	5	9125	3.96023	4	9155	3.96166	5
9096	3.95885	5	9126	3.96028	5	9156	3.96171	5
9097	3.95890	5	9127	3.96033	5	9157	3.96175	4
9098	3.95895	5	9128	3.96038	5	9158	3.96180	5
9099	3.95899	4	9129	3.96042	4	9159	3.96185	5
9100	3.95904	5	9130	3.96047	5	9160	3.96190	5
9101	3.95909	5	9131	3.96052	5	9161	3.96194	4
9102	3.95914	5	9132	3.96057	5	9162	3.96199	5
9103	3.95918	4	9133	3.96061	4	9163	3.96204	5
9104	3.95923	5	9134	3.96066	5	9164	3.96209	5
9105	3.95928	5	9135	3.96071	5	9165	3.96213	4
9106	3.95933	5	9136	3.96076	5	9166	3.96218	5
9107	3.95938	5	9137	3.96080	4	9167	3.96223	5
9108	3.95942	4	9138	3.96085	5	9168	3.96227	4
9109	3.95947	5	9139	3.96090	5	9169	3.96232	5
9110	3.95952	5	9140	3.96095	5	9170	3.96237	5
9111	3.95957	5	9141	3.96099	4	9171	3.96242	5
9112	3.95961	4	9142	3.96104	5	9172	3.96246	4
9113	3.95966	5	9143	3.96109	5	9173	3.96251	5
9114	3.95971	5	9144	3.96114	5	9174	3.96256	5
9115	3.95976	5	9145	3.96118	4	9175	3.96261	5
9116	3.95980	4	9146	3.96123	5	9176	3.96265	4
9117	3.95985	5	9147	3.96128	5	9177	3.96270	5
9118	3.95990	5	9148	3.96133	5	9178	3.96275	5
9119	3.95995	5	9149	3.96137	4	9179	3.96280	5
9120	3.95999	4	9150	3.96142	5	9180	3.96284	4

N.	2. 33' 0" Log.	D.	N.	2. 33' 30" Log.	D.	N.	2. 34' 0" Log.	D.
9180	3.96284	5	9210	3.96426	5	9240	3.96567	5
9181	3.96289	5	9211	3.96431	4	9241	3.96572	5
9182	3.96294	4	9212	3.96435	5	9242	3.96577	4
9183	3.96298	5	9213	3.96440	5	9243	3.96581	5
9184	3.96303	5	9214	3.96445	5	9244	3.96586	5
9185	3.96308	5	9215	3.96450	4	9245	3.96591	4
9186	3.96313	4	9216	3.96454	5	9246	3.96595	5
9187	3.96317	5	9217	3.96459	5	9247	3.96600	5
9188	3.96322	5	9218	3.96464	4	9248	3.96605	4
9189	3.96327	5	9219	3.96468	5	9249	3.96609	5
9190	3.96332	4	9220	3.96473	5	9250	3.96614	5
9191	3.96336	5	9221	3.96478	5	9251	3.96619	5
9192	3.96341	5	9222	3.96483	4	9252	3.96624	4
9193	3.96346	4	9223	3.96487	5	9253	3.96628	5
9194	3.96350	5	9224	3.96492	5	9254	3.96633	5
9195	3.96355	5	9225	3.96497	4	9255	3.96638	4
9196	3.96360	5	9226	3.96501	5	9256	3.96642	5
9197	3.96365	4	9227	3.96506	5	9257	3.96647	5
9198	3.96369	5	9228	3.96511	4	9258	3.96652	4
9199	3.96374	5	9229	3.96515	5	9259	3.96656	5
9200	3.96379	5	9230	3.96520	5	9260	3.96661	5
9201	3.96384	4	9231	3.96525	5	9261	3.96666	4
9202	3.96388	5	9232	3.96530	4	9262	3.96670	5
9203	3.96393	5	9233	3.96534	5	9263	3.96675	5
9204	3.96398	4	9234	3.96539	5	9264	3.96680	5
9205	3.96402	5	9235	3.96544	4	9265	3.96685	4
9206	3.96407	5	9236	3.96548	5	9266	3.96689	5
9207	3.96412	5	9237	3.96553	5	9267	3.96694	5
9208	3.96417	4	9238	3.96558	4	9268	3.96699	4
9209	3.96421	5	9239	3.96562	5	9269	3.96703	5
9210	3.96426		9240	3.96567		9270	3.96708	

N.	2. 34′ 30″ Log.	D.	N.	2. 35′ 0″ Log.	D.	N.	2. 35′ 30″ Log.	D.
9270	3.96708	5	9300	3.96848	5	9330	3.96988	5
9271	3.96713	4	9301	3.96853	5	9331	3.96993	4
9272	3.96717	5	9302	3.96858	4	9332	3.96997	5
9273	3.96722	5	9303	3.96862	5	9333	3.97002	5
9274	3.96727	4	9304	3.96867	5	9334	3.97007	4
9275	3.96731	5	9305	3.96872	4	9335	3.97011	5
9276	3.96736	5	9306	3.96876	5	9336	3.97016	5
9277	3.96741	4	9307	3.96881	5	9337	3.97021	4
9278	3.96745	5	9308	3.96886	4	9338	3.97025	5
9279	3.96750	5	9309	3.96890	5	9339	3.97030	5
9280	3.96755	4	9310	3.96895	5	9340	3.97035	4
9281	3.96759	5	9311	3.96900	4	9341	3.97039	5
9282	3.96764	5	9312	3.96904	5	9342	3.97044	5
9283	3.96769	5	9313	3.96909	5	9343	3.97049	4
9284	3.96774	4	9314	3.96914	4	9344	3.97053	5
9285	3.96778	5	9315	3.96918	5	9345	3.97058	5
9286	3.96783	5	9316	3.96923	5	9346	3.97063	4
9287	3.96788	4	9317	3.96928	4	9347	3.97067	5
9288	3.96792	5	9318	3.96932	5	9348	3.97072	5
9289	3.96797	5	9319	3.96937	5	9349	3.97077	4
9290	3.96802	4	9320	3.96942	4	9350	3.97081	5
9291	3.96806	5	9321	3.96946	5	9351	3.97086	4
9292	3.96811	5	9322	3.96951	5	9352	3.97090	5
9293	3.96816	4	9323	3.96956	4	9353	3.97095	5
9294	3.96820	5	9324	3.96960	5	9354	3.97100	4
9295	3.96825	5	9325	3.96965	5	9355	3.97104	5
9296	3.96830	4	9326	3.96970	4	9356	3.97109	5
9297	3.96834	5	9327	3.96974	5	9357	3.97114	4
9298	3.96839	5	9328	3.96979	5	9358	3.97118	5
9299	3.96844	4	9329	3.96984	4	9359	3.97123	5
9300	3.96848		9330	3.96988		9360	3.97128	

N.	2. 36′ 0″ Log.	D.	N.	2. 36′ 30″ Log.	D.	N.	2. 37′ 0″ Log.	D
9360	3.97128	4	9390	3.97267	4	9420	3.97405	5
9361	3.97132	5	9391	3.97271	5	9421	3.97410	4
9362	3.97137	5	9392	3.97276	4	9422	3.97414	5
9363	3.97142	4	9393	3.97280	5	9423	3.97419	5
9364	3.97146	5	9394	3.97285	5	9424	3.97424	4
9365	3.97151	4	9395	3.97290	4	9425	3.97428	5
9366	3.97155	5	9396	3.97294	5	9426	3.97433	4
9367	3.97160	5	9397	3.97299	5	9427	3.97437	5
9368	3.97165	4	9398	3.97304	4	9428	3.97442	5
9369	3.97169	5	9399	3.97308	5	9429	3.97447	4
9370	3.97174	5	9400	3.97313	4	9430	3.97451	5
9371	3.97179	4	9401	3.97317	5	9431	3.97456	4
9372	3.97183	5	9402	3.97322	5	9432	3.97460	5
9373	3.97188	4	9403	3.97327	4	9433	3.97465	5
9374	3.97192	5	9404	3.97331	5	9434	3.97470	4
9375	3.97197	5	9405	3.97336	4	9435	3.97474	5
9376	3.97202	4	9406	3.97340	5	9436	3.97479	4
9377	3.97206	5	9407	3.97345	5	9437	3.97483	5
9378	3.97211	5	9408	3.97350	4	9438	3.97488	5
9379	3.97216	4	9409	3.97354	5	9439	3.97493	4
9380	3.97220	5	9410	3.97359	5	9440	3.97497	5
9381	3.97225	5	9411	3.97364	4	9441	3.97502	4
9382	3.97230	4	9412	3.97368	5	9442	3.97506	5
9383	3.97234	5	9413	3.97373	4	9443	3.97511	5
9384	3.97239	4	9414	3.97377	5	9444	3.97516	4
9385	3.97243	5	9415	3.97382	5	9445	3.97520	5
9386	3.97248	5	9416	3.97387	4	9446	3.97525	4
9387	3.97253	4	9417	3.97391	5	9447	3.97529	5
9388	3.97257	5	9418	3.97396	4	9448	3.97534	5
9389	3.97262	5	9419	3.97400	5	9449	3.97539	4
9390	3.97267		9420	3.97405		9450	3.97543	

N.	2. 37′ 30″ Log.	D.	N.	2. 38′ 0″ Log.	D.	N.	2. 38′ 30″ Log.	D.
9450	3.97543	5	9480	3.97681	4	9510	3.97818	5
9451	3.97548	4	9481	3.97685	5	9511	3.97823	4
9452	3.97552	5	9482	3.97690	5	9512	3.97827	5
9453	3.97557	5	9483	3.97695	4	9513	3.97832	4
9454	3.97562	4	9484	3.97699	5	9514	3.97836	5
9455	3.97566	5	9485	3.97704	4	9515	3.97841	4
9456	3.97571	4	9486	3.97708	5	9516	3.97845	5
9457	3.97575	5	9487	3.97713	4	9517	3.97850	5
9458	3.97580	5	9488	3.97717	5	9518	3.97855	4
9459	3.97585	4	9489	3.97722	5	9519	3.97859	5
9460	3.97589	5	9490	3.97727	4	9520	3.97864	4
9461	3.97594	4	9491	3.97731	5	9521	3.97868	5
9462	3.97598	5	9492	3.97736	4	9522	3.97873	4
9463	3.97603	4	9493	3.97740	5	9523	3.97877	5
9464	3.97607	5	9494	3.97745	4	9524	3.97882	4
9465	3.97612	5	9495	3.97749	5	9525	3.97886	5
9466	3.97617	4	9496	3.97754	5	9526	3.97891	5
9467	3.97621	5	9497	3.97759	4	9527	3.97896	4
9468	3.97626	4	9498	3.97763	5	9528	3.97900	5
9469	3.97630	5	9499	3.97768	4	9529	3.97905	4
9470	3.97635	5	9500	3.97772	5	9530	3.97909	5
9471	3.97640	4	9501	3.97777	5	9531	3.97914	4
9472	3.97644	5	9502	3.97782	4	9532	3.97918	5
9473	3.97649	4	9503	3.97786	5	9533	3.97923	5
9474	3.97653	5	9504	3.97791	4	9534	3.97928	4
9475	3.97658	5	9505	3.97795	5	9535	3.97932	5
9476	3.97663	4	9506	3.97800	4	9536	3.97937	4
9477	3.97667	5	9507	3.97804	5	9537	3.97941	5
9478	3.97672	4	9508	3.97809	4	9538	3.97946	4
9479	3.97676	5	9509	3.97813	5	9539	3.97950	5
9480	3.97681		9510	3.97818		9540	3.97955	

N.	2. 39′ 0″ Log.	D.	N.	2. 39′ 30″ Log.	D.	N.	2. 40′ 0″ Log.	D.
9540	3.97955	4	9570	3.98091	5	9600	3.98227	5
9541	3.97959	5	9571	3.98096	4	9601	3.98232	4
9542	3.97964	4	9572	3.98100	5	9602	3.98236	5
9543	3.97968	5	9573	3.98105	4	9603	3.98241	4
9544	3.97973	5	9574	3.98109	5	9604	3.98245	5
9545	3.97978	4	9575	3.98114	4	9605	3.98250	4
9546	3.97982	5	9576	3.98118	5	9606	3.98254	5
9547	3.97987	4	9577	3.98123	4	9607	3.98259	4
9548	3.97991	5	9578	3.98127	5	9608	3.98263	5
9549	3.97996	4	9579	3.98132	5	9609	3.98268	4
9550	3.98000	5	9580	3.98137	4	9610	3.98272	5
9551	3.98005	4	9581	3.98141	5	9611	3.98277	4
9552	3.98009	5	9582	3.98146	4	9612	3.98281	5
9553	3.98014	5	9583	3.98150	5	9613	3.98286	4
9554	3.98019	4	9584	3.98155	4	9614	3.98290	5
9555	3.98023	5	9585	3.98159	5	9615	3.98295	4
9556	3.98028	4	9586	3.98164	4	9616	3.98299	5
9557	3.98032	5	9587	3.98168	5	9617	3.98304	4
9558	3.98037	4	9588	3.98173	4	9618	3.98308	5
9559	3.98041	5	9589	3.98177	5	9619	3.98313	5
9560	3.98046	4	9590	3.98182	4	9620	3.98318	4
9561	3.98050	5	9591	3.98186	5	9621	3.98322	5
9562	3.98055	4	9592	3.98191	4	9622	3.98327	4
9563	3.98059	5	9593	3.98195	5	9623	3.98331	5
9564	3.98064	4	9594	3.98200	4	9624	3.98336	4
9565	3.98068	5	9595	3.98204	5	9625	3.98340	5
9566	3.98073	5	9596	3.98209	5	9626	3.98345	4
9567	3.98078	4	9597	3.98214	4	9627	3.983[illegible]9	5
9568	3.98082	5	9598	3.98218	5	9628	3.98354	4
9569	3.98087	4	9599	3.98223	4	9629	3.98358	5
9570	3.98091		9600	3.98227		9630	3.98363	

N.	2. 40′ 30″ Log.	D.	N.	2. 41′ 0″ Log.	D.	N.	2. 41′ 30″ Log.	D.
9630	3.98363	4	9660	3.98498	4	9690	3.98632	5
9631	3.98367	5	9661	3.98502	5	9691	3.98637	4
9632	3.98372	4	9662	3.98507	4	9692	3.98641	5
9633	3.98376	5	9663	3.98511	5	9693	3.98646	4
9634	3.98381	4	9664	3.98516	4	9694	3.98650	5
9635	3.98385	5	9665	3.98520	5	9695	3.98655	4
9636	3.98390	4	9666	3.98525	4	9696	3.98659	5
9637	3.98394	5	9667	3.98529	5	9697	3.98664	4
9638	3.98399	4	9668	3.98534	4	9698	3.98668	5
9639	3.98403	5	9669	3.98538	5	9699	3.98673	4
9640	3.98408	4	9670	3.98543	4	9700	3.98677	5
9641	3.98412	5	9671	3.98547	5	9701	3.98682	4
9642	3.98417	4	9672	3.98552	4	9702	3.98686	5
9643	3.98421	5	9673	3.98556	5	9703	3.98691	4
9644	3.98426	4	9674	3.98561	4	9704	3.98695	5
9645	3.98430	5	9675	3.98565	5	9705	3.98700	4
9646	3.98435	4	9676	3.98570	4	9706	3.98704	5
9647	3.98439	5	9677	3.98574	5	9707	3.98709	4
9648	3.98444	4	9678	3.98579	4	9708	3.98713	4
9649	3.98448	5	9679	3.98583	5	9709	3.98717	5
9650	3.98453	4	9680	3.98588	4	9710	3.98722	4
9651	3.98457	5	9681	3.98592	5	9711	3.98726	5
9652	3.98462	4	9682	3.98597	4	9712	3.98731	4
9653	3.98466	5	9683	3.98601	4	9713	3.98735	5
9654	3.98471	4	9684	3.98605	5	9714	3.98740	4
9655	3.98475	5	9685	3.98610	4	9715	3.98744	5
9656	3.98480	4	9686	3.98614	5	9716	3.98749	4
9657	3.98484	5	9687	3.98619	4	9717	3.98753	5
9658	3.98489	4	9688	3.98623	5	9718	3.98758	4
9659	3.98493	5	9689	3.98628	4	9719	3.98762	5
9660	3.98498		9690	3.98632		9720	3.98767	

N.	2. 42′ 0″ Log.	D.
9720	3.98767	4
9721	3.98771	5
9722	3.98776	4
9723	3.98780	4
9724	3.98784	5
9725	3.98789	4
9726	3.98793	5
9727	3.98798	4
9728	3.98802	5
9729	3.98807	4
9730	3.98811	5
9731	3.98816	4
9732	3.98820	5
9733	3.98825	4
9734	3.98829	5
9735	3.98834	4
9736	3.98838	5
9737	3.98843	4
9738	3.98847	4
9739	3.98851	5
9740	3.98856	4
9741	3.98860	5
9742	3.98865	4
9743	3.98869	5
9744	3.98874	4
9745	3.98878	5
9746	3.98883	4
9747	3.98887	5
9748	3.98892	4
9749	3.98896	4
9750	3.98900	

N.	2. 42′ 30″ Log.	D.
9750	3.98900	5
9751	3.98905	4
9752	3.98909	5
9753	3.98914	4
9754	3.98918	5
9755	3.98923	4
9756	3.98927	5
9757	3.98932	4
9758	3.98936	5
9759	3.98941	4
9760	3.98945	4
9761	3.98949	5
9762	3.98954	4
9763	3.98958	5
9764	3.98963	4
9765	3.98967	5
9766	3.98972	4
9767	3.98976	5
9768	3.98981	4
9769	3.98985	4
9770	3.98989	5
9771	3.98994	4
9772	3.98998	5
9773	3.99003	4
9774	3.99007	5
9775	3.99012	4
9776	3.99016	5
9777	3.99021	4
9778	3.99025	4
9779	3.99029	5
9780	3.99034	

N.	2. 43′ 0″ Log.	D.
9780	3.99034	4
9781	3.99038	5
9782	3.99043	4
9783	3.99047	5
9784	3.99052	4
9785	3.99056	5
9786	3.99061	4
9787	3.99065	4
9788	3.99069	5
9789	3.99074	4
9790	3.99078	5
9791	3.99083	4
9792	3.99087	5
9793	3.99092	4
9794	3.99096	4
9795	3.99100	5
9796	3.99105	4
9797	3.99109	5
9798	3.99114	4
9799	3.99118	5
9800	3.99123	4
9801	3.99127	4
9802	3.99131	5
9803	3.99136	4
9804	3.99140	5
9805	3.99145	4
9806	3.99149	5
9807	3.99154	4
9808	3.99158	4
9809	3.99162	5
9810	3.99167	

N.	2. 43' 30" Log.	D.	N.	2. 44' 0" Log.	D.	N.	2. 44' 30" Log.	D.
9810	3.99167	4	9840	3.99300	4	9870	3.99432	4
9811	3.99171	5	9841	3.99304	4	9871	3.99436	5
9812	3.99176	4	9842	3.99308	5	9872	3.99441	4
9813	3.99180	5	9843	3.99313	4	9873	3.99445	4
9814	3.99185	4	9844	3.99317	5	9874	3.99449	5
9815	3.99189	4	9845	3.99322	4	9875	3.99454	4
9816	3.99193	5	9846	3.99326	4	9876	3.99458	5
9817	3.99198	4	9847	3.99330	5	9877	3.99463	4
9818	3.99202	5	9848	3.99335	4	9878	3.99467	4
9819	3.99207	4	9849	3.99339	5	9879	3.99471	5
9820	3.99211	5	9850	3.99344	4	9880	3.99476	4
9821	3.99216	4	9851	3.99348	4	9881	3.99480	4
9822	3.99220	4	9852	3.99352	5	9882	3.99484	5
9823	3.99224	5	9853	3.99357	4	9883	3.99489	4
9824	3.99229	4	9854	3.99361	5	9884	3.99493	5
9825	3.99233	5	9855	3.99366	4	9885	3.99498	4
9826	3.99238	4	9856	3.99370	4	9886	3.99502	4
9827	3.99242	5	9857	3.99374	5	9887	3.99506	5
9828	3.99247	4	9858	3.99379	4	9888	3.99511	4
9829	3.99251	4	9859	3.99383	5	9889	3.99515	5
9830	3.99255	5	9860	3.99388	4	9890	3.99520	4
9831	3.99260	4	9861	3.99392	4	9891	3.99524	4
9832	3.99264	5	9862	3.99396	5	9892	3.99528	5
9833	3.99269	4	9863	3.99401	4	9893	3.99533	4
9834	3.99273	4	9864	3.99405	5	9894	3.99537	5
9835	3.99277	5	9865	3.99410	4	9895	3.99542	4
9836	3.99282	4	9866	3.99414	5	9896	3.99546	4
9837	3.99286	5	9867	3.99419	4	9897	3.99550	5
9838	3.99291	4	9868	3.99423	4	9898	3.99555	4
9839	3.99295	5	9869	3.99427	5	9899	3.99559	5
9840	3.99300		9870	3.99432		9900	3.99564	

N.	2.45′ 0″ Log.	D.	N.	2.45 30″ Log.	D.	N.	2.46′ 0″ Log.	D.
9900	3.99564	4	9930	3.99695	4	9960	3.99826	4
9901	3.99568	4	9931	3.99699	5	9961	3.99830	5
9902	3.99572	5	9932	3.99704	4	9962	3.99835	4
9903	3.99577	4	9933	3.99708	4	9963	3.99839	4
9904	3.99581	4	9934	3.99712	5	9964	3.99843	5
9905	3.99585	5	9935	3.99717	4	9965	3.99848	4
9906	3.99590	4	9936	3.99721	5	9966	3.99852	4
9907	3.99594	5	9937	3.99726	4	9967	3.99856	5
9908	3.99599	4	9938	3.99730	4	9968	3.99861	4
9909	3.99603	4	9939	3.99734	5	9969	3.99865	5
9910	3.99607	5	9940	3.99739	4	9970	3.99870	4
9911	3.99612	4	9941	3.99743	4	9971	3.99874	4
9912	3.99616	5	9942	3.99747	5	9972	3.99878	5
9913	3.99621	4	9943	3.99752	4	9973	3.99883	4
9914	3.99625	4	9944	3.99756	4	9974	3.99887	4
9915	3.99629	5	9945	3.99760	5	9975	3.99891	5
9916	3.99634	4	9946	3.99765	4	9976	3.99896	4
9917	3.99638	4	9947	3.99769	5	9977	3.99900	4
9918	3.99642	5	9948	3.99774	4	9978	3 99904	5
9919	3.99647	4	9949	3.99778	4	9979	3.99909	4
9920	3.99651	5	9950	3.99782	5	9980	3.99913	4
9921	3.99656	4	9951	3.99787	4	9981	3.99917	5
9922	3.99660	4	9952	3.99791	4	9982	3.99922	4
9923	3.99664	5	9953	3.99795	5	9983	3.99926	4
9924	3.99669	4	9954	3.99800	4	9984	3.99930	5
9925	3.99673	4	9955	3.99804	4	9985	3.99935	4
9926	3.99677	5	9956	3.99808	5	9986	3.99939	5
9927	3.99682	4	9957	3.99813	4	9987	3.99944	4
9928	3.99686	5	9958	3.99817	5	9988	3.99948	4
9929	3.99691	4	9959	3.99822	4	9989	3.99952	5
9930	3.99695		9960	3.99826		9990	3.99957	

N.	2. 46' 30'' Log.	D.	N.	2. 46' 34'' Log.	D.	N.	2. 46' 37'' Log.	D
9990	3.99957	4	9994	3.99974	4	9997	3.99987	4
9991	3.99961	4	9995	3.99978	5	9998	3.99991	5
9992	3.99965	5	9996	3.99983	4	9999	3.99996	4
9993	3.99970		9997	3.99987		10000	4.00000	

Vielfache der Zahl 2,302585 ... um aus dem Brigg. Logarith. den natürlichen durch die abgekürzte Multiplication zu finden.

N.	Charakterist.	Decimalen. I	II	III	IV	V	VI
9	20,723266	2,072327	0,207233	20723	2072	207	21
8	18,420681	1,842068	184207	18421	1842	184	18
7	16,118096	1,611810	161181	16118	1612	161	16
6	13,815511	1,381551	138155	13816	1382	138	14
5	11,512925	1,151293	115129	11513	1151	115	12
4	9,210340	0,921034	92103	9210	921	92	9
3	6,907755	0,690776	69078	6908	691	69	7
2	4,605170	0,460517	46052	4605	461	46	5
1	2,302585	0,230259	23026	2303	230	23	2

Vielfache von der Zahl 0,434294 ... um aus dem natürlichen Logarith. durch die abgekürzte Multiplication den Brigg. zu erhalten.

N.	Charakterist.	Decimalen. I	II	III	IV	V	VI
9	3,908650	390865	39087	3909	391	39	4
8	3,474356	347436	34744	3474	347	35	3
7	3,040061	304006	30401	3040	304	30	3
6	2,605767	260577	26058	2606	261	26	3
5	2,171472	217147	21715	2171	217	22	2
4	1,737178	173718	17372	1737	174	17	2
3	1,302883	130288	13029	1303	130	13	1
2	0,868589	86859	8686	869	87	9	1
1	0,434294	43429	4343	434	43	4	0

Einige Logarithmen welche oft gebraucht werden.

Log. von 1296000″ (360°)....... 6,1126050
Log. von 86400″ (24^h)...............................4,9365137
Log. des Bogens, welcher dem Radius gleich
  ist (57° 17′ 44″,8) 206264″,8 5,3144251
Log. desselben Bog. in Minut. 3437′,7466 = 3,5362739
Log. dess. B. in Graden ($\frac{180}{\pi}$) 57°,295766....1,7581226
Log. der Kreis-Peripherie (π)
  3,14159265358979323846...... 0,4971499
Log. des Durchmessers, wenn die Periph. =
  1 ist oder v. $\frac{1}{\pi}$ = 0,31830988618379.... = 0,5028501 — 1
Log. der Fläche eines Kreises, dessen Durchmesser = 1 ist ($\frac{\pi}{4}$) = 0,7853... (a)........0,8950899 — 1
Log. der Oberfläche einer Kugel, deren Radius = 1 ist, oder von der Zahl 12,56636
  ... (4π) (b)...... 1,0992099
Log. des cubischen Inhalts einer Kugel vom Durchmesser = 1, oder von der Zahl
  0,523598 ... ($\frac{\pi}{6}$) (c)...............................0,7189986 — 1

---

a) Man addirt hiezu den doppelten Logarith. des gegebenen Durchmessers, wenn man die Fläche eines Kreises, und die Logarith. der beiden Axen, wenn man die Fläche einer Ellipse haben will.

b) Hierzu wird der doppelte Log. des gegebenen Radius addirt.

c) Man addirt den dreifachen Log. des Durchmessers hierzu.

Log. des Modulus der briggischen Logarith. M = 0,4342944819... ....0,6377843 — 1
Log. 2,302585092994.. = log. nat. 10.....0,3622157

	Nach Bessels Bestimmung	
Log. des Halbmessers vom Erdäquator 3272077 Toisen = a...		6,5148235
Log. der halben Axe des Erdsphäroids 3261139 Toisen = b...		6,5133694
Log. der Länge des Erdquadranten 5131179,81 Toisen...		6,7102172
oder 10000855,76 Met. + 498,^{m}23		7,0000372
Log. $\frac{a}{b}$ = Log. 1,003354...		0,0014542
Log. eines Grades vom Aequator 57108,46 Toisen...		4,7567006
Log. eines mittlern Meridiangrades 57013,109 Toisen ± 2^{T},8403...		4,7559748

Log. des trop. Jahrs 365^{T} 5^{St} 48′ 54″.......2,5625809
Log. des Sideraljahrs 365^{T} 6^{St} 9′ 15″ 2,5625977

Beständige und zu addirende Logarith., um die Toise und ihre Theile in Metres und dessen Theile zu verwandeln.

1 Toise = 1,^{m}949037	0,2898200	
1 Fuß = 0,^{m}3248394	0,5116687	— 1
1 Zoll = 0,^{m}02706995	0,4324875	— 2
1 Linie = 0,^{m}00225583	0,3533063	— 3

Beständige und zu addirende Logarith., um das Metre und seine Theile in Toisen und deren Theile zu verwandeln.

1 Metre	0,513074 Toisen	0,7101800	— 1
	3,078444 Fuß	0,4883313	
	36,94133 Zoll	1,5675125	
	443,2959 Linien	2,6466937	

Logarithmen
der Sinus und Tangenten

von Sekunde zu Sekunde

für den 1. und 2. Grad

und

von 10 zu 10 Sekunden

für den 3. bis 13. Grad.

″	0′	1′	2′	3′	4′	5′	″
0	—	6.46373	6.76476	6.94085	7.06579	7.16270	60
1	4.68557	6.47090	6.76836	6.94325	7.06759	7.16414	59
2	4.98660	6.47797	6.77193	6.94565	7.06939	7.16558	58
3	5.16270	6.48492	6.77548	6.94803	7.07118	7.16702	57
4	5.28763	6.49175	6.77900	6.95039	7.07296	7.16845	56
5	5.38454	6.49849	6.78248	6.95275	7.07474	7.16987	55
6	5.46373	6.50512	6.78594	6.95508	7.07651	7.17130	54
7	5.53067	6.51165	6.78938	6.95742	7.07827	7.17271	53
8	5.58866	6.51808	6.79278	6.95973	7.08003	7.17413	52
9	5.63982	6.52442	6.79616	6.96204	7.08177	7.17553	51
10	5.68557	6.53067	6.79952	6.96433	7.08351	7.17694	50
11	5.72697	6.53683	6.80285	6.96661	7.08525	7.17834	49
12	5.76476	6.54291	6.80615	6.96888	7.08698	7.17973	48
13	5.79952	6.54890	6.80943	6.97113	7.08870	7.18112	47
14	5.83170	6.55481	6.81268	6.97338	7.09041	7.18250	46
15	5.86167	6.56064	6.81591	6.97561	7.09211	7.18389	45
16	5.88969	6.56639	6.81911	6.97783	7.09381	7.18526	44
17	5.91602	6.57207	6.82230	6.98004	7.09551	7.18663	43
18	5.94085	6.57767	6.82545	6.98224	7.09719	7.18800	42
19	5.96433	6.58329	6.82859	6.98443	7.09887	7.18937	41
20	5.98660	6.58866	6.83170	6.98660	7.10055	7.19072	40
21	6.00779	6.59406	6.83479	6.98877	7.10222	7.19208	39
22	6.02800	6.59939	6.83786	6.99093	7.10388	7.19343	38
23	6.04730	6.60465	6.84091	6.99307	7.10553	7.19478	37
24	6.06579	6.60985	6.84394	6.99520	7.10718	7.19612	36
25	6.08351	6.61499	6.84694	6.99733	7.10882	7.19746	35
26	6.10055	6.62007	6.84993	6.99944	7.11046	7.19879	34
27	6.11694	6.62509	6.85289	7.00155	7.11209	7.20012	33
28	6.13273	6.63006	6.85584	7.00364	7.11371	7.20145	32
29	6.14797	6.63496	6.85876	7.00572	7.11533	7.20277	31
30	6.16270	6.63982	6.86167	7.00779	7.11694	7.20409	30
″	59′	58′	57′	56′	55′	54′	″

"	0'	1'	2'	3'	4'	5'	"
0	—	6.46373	6.76476	6.94085	7.06579	7.16270	60
1	4.68557	6.47090	6.76836	6.94325	7.06759	7.16414	59
2	4.98660	6.47797	6.77193	6.94565	7.06939	7.16558	58
3	5.16270	6.48492	6.77548	6.94803	7.07118	7.16702	57
4	5.28763	6.49175	6.77900	6.95039	7.07296	7.16845	56
5	5.38454	6.49849	6.78248	6.95275	7.07474	7.16988	55
6	5.46373	6.50512	6.78595	6.95509	7.07651	7.17130	54
7	5.53067	6.51165	6.78938	6.95742	7.07827	7.17271	53
8	5.58866	6.51808	6.79278	6.95973	7.08003	7.17413	52
9	5.63982	6.52442	6.79616	6.96204	7.08177	7.17553	51
10	5.68557	6.53067	6.79952	6.96433	7.08352	7.17694	50
11	5.72697	6.53683	6.80285	6.96661	7.08525	7.17834	49
12	5.76476	6.54291	6.80615	6.96888	7.08698	7.17973	48
13	5.79952	6.54890	6.80943	6.97113	7.08870	7.18112	47
14	5.83170	6.55481	6.81268	6.97338	7.09041	7.18250	46
15	5.86167	6.56064	6.81591	6.97561	7.09212	7.18389	45
16	5.88969	6.56639	6.81911	6.97783	7.09382	7.18526	44
17	5.91602	6.57207	6.82230	6.98004	7.09551	7.18663	43
18	5.94085	6.57767	6.82545	6.98224	7.09719	7.18800	42
19	5.96433	6.58320	6.82859	6.98443	7.09887	7.18937	41
20	5.98660	6.58866	6.83170	6.98660	7.10055	7.19073	40
21	6.00779	6.59406	6.83479	6.98877	7.10222	7.19209	39
22	6.02800	6.59939	6.83786	6.99093	7.10388	7.19344	38
23	6.04730	6.60465	6.84091	6.99307	7.10553	7.19479	37
24	6.06579	6.60985	6.84394	6.99521	7.10718	7.19612	36
25	6.08351	6.61499	6.84694	6.99733	7.10882	7.19746	35
26	6.10055	6.62007	6.84993	6.99944	7.11046	7.19879	34
27	6.11694	6.62509	6.85289	7.00155	7.11209	7.20012	33
28	6.13273	6.63006	6.85584	7.00364	7.11371	7.20145	32
29	6.14797	6.63496	6.85876	7.00572	7.11533	7.20277	31
30	6.16270	6.63982	6.86167	7.00779	7.11694	7.20408	30
"	59'	58'	57'	56'	55'	54'	"

″	0′	1′	2′	3′	4′	5′	″
30	6.16270	6.63982	6.86167	7.00779	7.11694	7.20409	30
31	6.17694	6.64462	6.86455	7.00986	7.11854	7.20540	29
32	6.19072	6.64936	6.86742	7.01191	7.12014	7.20671	28
33	6.20409	6.65406	6.87027	7.01395	7.12174	7.20802	27
34	6.21705	6.65870	6.87310	7.01599	7.12333	7.20932	26
35	6.22964	6.66330	6.87591	7.01801	7.12491	7.21062	25
36	6.24188	6.66785	6.87870	7.02003	7.12648	7.21191	24
37	6.25378	6.67235	6.88147	7.02203	7.12805	7.21320	23
38	6.26536	6.67680	6.88423	7.02403	7.12962	7.21449	22
39	6.27664	6.68121	6.88697	7.02602	7.13118	7.21577	21
40	6.28763	6.68557	6.88969	7.02800	7.13273	7.21705	20
41	6.29836	6.68990	6.89240	7.02997	7.13428	7.21833	19
42	6.30882	6.69418	6.89509	7.03193	7.13582	7.21960	18
43	6.31904	6.69841	6.89776	7.03388	7.13736	7.22087	17
44	6.32903	6.70261	6.90042	7.03582	7.13889	7.22213	16
45	6.33879	6.70676	6.90306	7.03776	7.14042	7.22339	15
46	6.34833	6.71088	6.90568	7.03968	7.14194	7.22465	14
47	6.35767	6.71496	6.90829	7.04160	7.14346	7.22590	13
48	6.36682	6.71900	6.91088	7.04351	7.14497	7.22715	12
49	6.37577	6.72300	6.91346	7.04541	7.14647	7.22840	11
50	6.38454	6.72697	6.91602	7.04730	7.14797	7.22964	10
51	6.39315	6.73090	6.91857	7.04919	7.14947	7.23088	9
52	6.40158	6.73479	6.92110	7.05106	7.15096	7.23212	8
53	6.40985	6.73865	6.92362	7.05293	7.15244	7.23335	7
54	6.41797	6.74248	6.92612	7.05479	7.15392	7.23458	6
55	6.42594	6.74627	6.92861	7.05664	7.15540	7.23580	5
56	6.43376	6.75003	6.93109	7.05849	7.15687	7.23702	4
57	6.44145	6.75376	6.93355	7.06032	7.15833	7.23824	3
58	6.44900	6.75746	6.93599	7.06215	7.15979	7.23946	2
59	6.45643	6.76112	6.93843	7.06397	7.16125	7.24067	1
60	6.46373	6.76476	6.94085	7.06579	7.16270	7.24188	0
″	59′	58′	57′	56′	55′	54′	″

″	0′	1′	2′	3′	4′	5′	″
30	6.16270	6.63982	6.86167	7.00779	7.11694	7.20409	30
31	6.17694	6.64462	6.86455	7.00986	7.11854	7.20540	29
32	6.19072	6.64936	6.86742	7.01191	7.12014	7.20671	28
33	6.20409	6.65406	6.87027	7.01395	7.12174	7.20802	27
34	6.21705	6.65870	6.87310	7.01599	7.12333	7.20932	26
35	6.22964	6.66330	6.87591	7.01801	7.12491	7.21062	25
36	6.24188	6.66785	6.87870	7.02003	7.12648	7.21191	24
37	6.25378	6.67225	6.88147	7.02203	7.12805	7.21321	23
38	6.26536	6.67680	6.88423	7.02403	7.12962	7.21449	22
39	6.27664	6.68121	6.88697	7.02602	7.13118	7.21577	21
40	6.28763	6.68557	6.88969	7.02800	7.13273	7.21705	20
41	6.29836	6.68990	6.89240	7.02997	7.13428	7.21833	19
42	6.30882	6.69418	6.89509	7.03193	7.13582	7.21960	18
43	6.31904	6.69841	6.89776	7.03388	7.13736	7.22087	17
44	6.32903	6.70261	6.90042	7.03582	7.13889	7.22213	16
45	6.33879	6.70676	6.90306	7.03776	7.14042	7.22339	15
46	6.34833	6.71088	6.90568	7.03968	7.14194	7.22465	14
47	6.35767	6.71496	6.90829	7.04160	7.14346	7.22590	13
48	6.36682	6.71900	6.91088	7.04351	7.14497	7.22715	12
49	6.37577	6.72300	6.91346	7.04541	7.14647	7.22840	11
50	6.38454	6.72697	6.91602	7.04730	7.14797	7.22964	10
51	6.39315	6.73090	6.91857	7.04919	7.14947	7.23088	9
52	6.40158	6.73479	6.92110	7.05106	7.15096	7.23212	8
53	6.40985	6.73865	6.92362	7.05293	7.15244	7.23335	7
54	6.41797	6.74248	6.92612	7.05479	7.15392	7.23458	6
55	6.42594	6.74627	6.92861	7.05664	7.15540	7.23580	5
56	6.43376	6.75003	6.93109	7.05849	7.15687	7.23703	4
57	6.44145	6.75376	6.93355	7.06032	7.15833	7.23824	3
58	6.44900	6.75746	6.93599	7.06215	7.15979	7.23946	2
59	6.45643	6.76112	6.93843	7.06397	7.16125	7.24067	1
60	6.46373	6.76476	6.94085	7.06579	7.16270	7.24188	0
″	59′	58′	57′	56′	55′	54′	″

″	6′	7′	8′	9′	10′	11′	″
0	7.24188	7.30882	7.36682	7.41797	7.46373	7.50512	60
1	7.24308	7.30986	7.36772	7.41877	7.46445	7.50578	59
2	7.24428	7.31089	7.36862	7.41957	7.46517	7.50643	58
3	7.24548	7.31191	7.36952	7.42037	7.46589	7.50709	57
4	7.24668	7.31294	7.37042	7.42117	7.46661	7.50774	56
5	7.24787	7.31396	7.37132	7.42197	7.46733	7.50840	55
6	7.24906	7.31498	7.37221	7.42277	7.46805	7.50905	54
7	7.25024	7.31600	7.37310	7.42356	7.46876	7.50970	53
8	7.25142	7.31702	7.37399	7.42435	7.46948	7.51035	52
9	7.25260	7.31803	7.37488	7.42515	7.47019	7.51100	51
10	7.25378	7.31904	7.37577	7.42594	7.47090	7.51165	50
11	7.25495	7.32005	7.37666	7.42673	7.47162	7.51230	49
12	7.25612	7.32106	7.37754	7.42751	7.47233	7.51294	48
13	7.25728	7.32206	7.37842	7.42830	7.47304	7.51359	47
14	7.25845	7.32306	7.37930	7.42908	7.47374	7.51423	46
15	7.25961	7.32406	7.38018	7.42987	7.47445	7.51488	45
16	7.26076	7.32506	7.38106	7.43065	7.47515	7.51552	44
17	7.26192	7.32606	7.38193	7.43143	7.47586	7.51616	43
18	7.26307	7.32705	7.38280	7.43221	7.47656	7.51680	42
19	7.26421	7.32804	7.38367	7.43299	7.47726	7.51744	41
20	7.26536	7.32903	7.38454	7.43376	7.47797	7.51808	40
21	7.26650	7.33001	7.38541	7.43454	7.47867	7.51872	39
22	7.26764	7.33100	7.38628	7.43531	7.47936	7.51936	38
23	7.26877	7.33198	7.38714	7.43608	7.48006	7.51999	37
24	7.26991	7.33296	7.38800	7.43685	7.48076	7.52063	36
25	7.27104	7.33393	7.38887	7.43762	7.48145	7.52126	35
26	7.27216	7.33491	7.38972	7.43839	7.48215	7.52190	34
27	7.27329	7.33588	7.39058	7.43916	7.48284	7.52253	33
28	7.27441	7.33685	7.39144	7.43992	7.48353	7.52316	32
29	7.27552	7.33782	7.39229	7.44069	7.48422	7.52379	31
30	7.27664	7.33879	7.39314	7.44145	7.48491	7.52442	30
″	53′	52′	51′	50′	49′	48′	″

"	6'	7'	8'	9'	10'	11'	"
0	7.24188	7.30882	7.36682	7.41797	7.46373	7.50512	60
1	7.24308	7.30986	7.36772	7.41877	7.46445	7.50578	59
2	7.24428	7.31089	7.36862	7.41958	7.46517	7.50643	58
3	7.24548	7.31192	7.36952	7.42038	7.46589	7.50709	57
4	7.24668	7.31294	7.37042	7.42117	7.46661	7.50774	56
5	7.24787	7.31396	7.37132	7.42197	7.46733	7.50840	55
6	7.24906	7.31498	7.37221	7.42277	7.46805	7.50905	54
7	7.25024	7.31600	7.37310	7.42356	7.46876	7.50970	53
8	7.25142	7.31702	7.37399	7.42436	7.46948	7.51035	52
9	7.25260	7.31803	7.37488	7.42515	7.47019	7.51100	51
10	7.25378	7.31904	7.37577	7.42594	7.47091	7.51165	50
11	7.25495	7.32005	7.37666	7.42673	7.47162	7.51230	49
12	7.25612	7.32106	7.37754	7.42751	7.47233	7.51295	48
13	7.25728	7.32206	7.37842	7.42830	7.47304	7.51359	47
14	7.25845	7.32307	7.37930	7.42908	7.47374	7.51424	46
15	7.25961	7.32406	7.38018	7.42987	7.47445	7.51488	45
16	7.26076	7.32506	7.38106	7.43065	7.47516	7.51552	44
17	7.26192	7.32606	7.38193	7.43143	7.47586	7.51617	43
18	7.26307	7.32705	7.38281	7.43221	7.47656	7.51681	42
19	7.26421	7.32804	7.38368	7.43299	7.47727	7.51745	41
20	7.26536	7.32903	7.38455	7.43376	7.47797	7.51809	40
21	7.26650	7.33001	7.38541	7.43454	7.47867	7.51872	39
22	7.26764	7.33100	7.38628	7.43531	7.47937	7.51936	38
23	7.26877	7.33198	7.38714	7.43608	7.48006	7.52000	37
24	7.26991	7.33296	7.38801	7.43685	7.48076	7.52063	36
25	7.27104	7.33394	7.38887	7.43762	7.48146	7.52127	35
26	7.27216	7.33491	7.38973	7.43839	7.48215	7.52190	34
27	7.27329	7.33588	7.39058	7.43916	7.48284	7.52253	33
28	7.27441	7.33685	7.39144	7.43992	7.48354	7.52316	32
29	7.27552	7.33782	7.39229	7.44069	7.48423	7.52380	31
30	7.27664	7.33879	7.39315	7.44145	7.48492	7.52443	30
"	53'	52'	51'	50'	49'	48'	"

″	6′	7′	8′	9′	10′	11′	″
30	7.27664	7.33879	7.39314	7.44145	7.48491	7.52442	30
31	7.27775	7.33975	7.39400	7.44221	7.48560	7.52505	29
32	7.27886	7.34071	7.39484	7.44297	7.48629	7.52568	28
33	7.27997	7.34167	7.39569	7.44373	7.48698	7.52631	27
34	7.28107	7.34263	7.39654	7.44449	7.48766	7.52693	26
35	7.28217	7.34359	7.39738	7.44524	7.48835	7.52756	25
36	7.28327	7.34454	7.39822	7.44600	7.48903	7.52818	24
37	7.28437	7.34549	7.39906	7.44675	7.48971	7.52881	23
38	7.28546	7.34644	7.39990	7.44750	7.49039	7.52943	22
39	7.28655	7.34739	7.40074	7.44825	7.49108	7.53005	21
40	7.28763	7.34833	7.40158	7.44900	7.49175	7.53067	20
41	7.28872	7.34928	7.40241	7.44975	7.49243	7.53129	19
42	7.28980	7.35022	7.40324	7.45050	7.49311	7.53191	18
43	7.29088	7.35116	7.40408	7.45124	7.49379	7.53253	17
44	7.29196	7.35209	7.40491	7.45199	7.49446	7.53315	16
45	7.29303	7.35303	7.40573	7.45273	7.49513	7.53376	15
46	7.29410	7.35396	7.40656	7.45347	7.49581	7.53438	14
47	7.29517	7.35489	7.40739	7.45421	7.49648	7.53499	13
48	7.29623	7.35582	7.40821	7.45495	7.49715	7.53561	12
49	7.29730	7.35675	7.40903	7.45569	7.49782	7.53622	11
50	7.29836	7.35767	7.40985	7.45643	7.49849	7.53683	10
51	7.29942	7.35860	7.41067	7.45716	7.49916	7.53744	9
52	7.30047	7.35952	7.41149	7.45790	7.49982	7.53805	8
53	7.30152	7.36044	7.41230	7.45863	7.50049	7.53866	7
54	7.30257	7.36135	7.41312	7.45936	7.50115	7.53927	6
55	7.30362	7.36227	7.41393	7.46009	7.50182	7.53988	5
56	7.30467	7.36318	7.41474	7.46082	7.50248	7.54049	4
57	7.30571	7.36409	7.41555	7.46155	7.50314	7.54109	3
58	7.30675	7.36500	7.41636	7.46228	7.50380	7.54170	2
59	7.30779	7.36591	7.41716	7.46300	7.50446	7.54230	1
60	7.30882	7.36682	7.41797	7.46373	7.50512	7.54291	0
″	53′	52′	51′	50′	49′	48′	″

″	6′	7′	8′	9′	10′	11′	″
30	7.27664	7.33879	7.39315	7.44145	7.48492	7.52443	30
31	7.27775	7.33975	7.39400	7.44221	7.48561	7.52505	29
32	7.27886	7.34071	7.39485	7.44297	7.48629	7.52568	28
33	7.27997	7.34167	7.39569	7.44373	7.48698	7.52631	27
34	7.28107	7.34263	7.39654	7.44449	7.48767	7.52694	26
35	7.28217	7.34359	7.39738	7.44524	7.48835	7.52756	25
36	7.28327	7.34454	7.39823	7.44600	7.48903	7.52819	24
37	7.28437	7.34549	7.39907	7.44675	7.48972	7.52881	23
38	7.28546	7.34644	7.39991	7.44750	7.49040	7.52943	22
39	7.28655	7.34739	7.40074	7.44825	7.49108	7.53005	21
40	7.28764	7.34833	7.40158	7.44900	7.49176	7.53067	20
41	7.28872	7.34928	7.40241	7.44975	7.49243	7.53129	19
42	7.28980	7.35022	7.40325	7.45050	7.49311	7.53191	18
43	7.29088	7.35116	7.40408	7.45124	7.49379	7.53253	17
44	7.29196	7.35209	7.40491	7.45199	7.49446	7.53315	16
45	7.29303	7.35303	7.40574	7.45273	7.49514	7.53377	15
46	7.29410	7.35396	7.40656	7.45347	7.49581	7.53438	14
47	7.29517	7.35489	7.40739	7.45421	7.49648	7.53500	13
48	7.29624	7.35582	7.40821	7.45495	7.49715	7.53561	12
49	7.29730	7.35675	7.40903	7.45569	7.49782	7.53622	11
50	7.29836	7.35767	7.40985	7.45643	7.49849	7.53683	10
51	7.29942	7.35860	7.41067	7.45716	7.49916	7.53745	9
52	7.30047	7.35952	7.41149	7.45790	7.49982	7.53806	8
53	7.30153	7.36044	7.41230	7.45863	7.50049	7.53867	7
54	7.30258	7.36135	7.41312	7.45936	7.50115	7.53927	6
55	7.30362	7.36227	7.41393	7.46009	7.50182	7.53988	5
56	7.30467	7.36318	7.41474	7.46082	7.50248	7.54049	4
57	7.30571	7.36409	7.41555	7.46155	7.50314	7.54110	3
58	7.30675	7.36500	7.41636	7.46228	7.50380	7.54170	2
59	7.30779	7.36591	7.41716	7.46300	7.50446	7.54231	1
60	7.30882	7.36682	7.41797	7.46373	7.50512	7.54291	0
″	53′	52′	51′	50′	49′	48′	″

″	12′	13′	14′	15′	16′	17′	″
0	7.54291	7.57767	7.60985	7.63982	7.66784	7.69417	60
1	7.54351	7.57822	7.61037	7.64030	7.66830	7.69460	59
2	7.54411	7.57878	7.61089	7.64078	7.66875	7.69502	58
3	7.54471	7.57934	7.61140	7.64126	7.66920	7.69545	57
4	7.54531	7.57989	7.61192	7.64174	7.66965	7.69587	56
5	7.54591	7.58044	7.61243	7.64222	7.67010	7.69630	55
6	7.54651	7.58100	7.61294	7.64270	7.67055	7.69672	54
7	7.54711	7.58155	7.61346	7.64318	7.67100	7.69714	53
8	7.54771	7.58210	7.61397	7.64366	7.67145	7.69757	52
9	7.54830	7.58265	7.61448	7.64414	7.67190	7.69799	51
10	7.54890	7.58320	7.61499	7.64461	7.67235	7.69841	50
11	7.54949	7.58375	7.61550	7.64509	7.67279	7.69883	49
12	7.55009	7.58430	7.61601	7.64557	7.67324	7.69925	48
13	7.55068	7.58485	7.61652	7.64604	7.67369	7.69967	47
14	7.55127	7.58539	7.61703	7.64652	7.67413	7.70009	46
15	7.55186	7.58594	7.61754	7.64699	7.67458	7.70051	45
16	7.55245	7.58649	7.61805	7.64747	7.67502	7.70093	44
17	7.55304	7.58703	7.61855	7.64794	7.67547	7.70135	43
18	7.55363	7.58758	7.61906	7.64842	7.67591	7.70177	42
19	7.55422	7.58812	7.61957	7.64889	7.67636	7.70219	41
20	7.55481	7.58866	7.62007	7.64936	7.67680	7.70261	40
21	7.55539	7.58921	7.62058	7.64983	7.67724	7.70302	39
22	7.55598	7.58975	7.62108	7.65030	7.67768	7.70344	38
23	7.55656	7.59029	7.62158	7.65078	7.67813	7.70386	37
24	7.55715	7.59083	7.62209	7.65125	7.67857	7.70427	36
25	7.55773	7.59137	7.62259	7.65172	7.67901	7.70469	35
26	7.55831	7.59191	7.62309	7.65218	7.67945	7.70510	34
27	7.55889	7.59245	7.62359	7.65265	7.67989	7.70552	33
28	7.55948	7.59299	7.62409	7.65312	7.68033	7.70593	32
29	7.56006	7.59352	7.62459	7.65359	7.68077	7.70635	31
30	7.56064	7.59406	7.62509	7.65406	7.68121	7.70676	30
″	47′	46′	45′	44′	43′	42′	″

"	12′	13′	14′	15′	16′	17′	"
0	7.54291	7.57767	7.60986	7.63982	7.66785	7.69418	60
1	7.54351	7.57823	7.61037	7.64030	7.66830	7.69460	59
2	7.54411	7.57878	7.61089	7.64078	7.66875	7.69503	58
3	7.54471	7.57934	7.61140	7.64127	7.66920	7.69545	57
4	7.54532	7.57989	7.61192	7.64175	7.66966	7.69588	56
5	7.54591	7.58045	7.61243	7.64223	7.67011	7.69630	55
6	7.54651	7.58100	7.61295	7.64271	7.67056	7.69672	54
7	7.54711	7.58155	7.61346	7.64318	7.67100	7.69715	53
8	7.54771	7.58210	7.61397	7.64366	7.67145	7.69757	52
9	7.54830	7.58265	7.61449	7.64414	7.67190	7.69799	51
10	7.54890	7.58320	7.61500	7.64462	7.67235	7.69842	50
11	7.54949	7.58375	7.61551	7.64510	7.67280	7.69884	49
12	7.55009	7.58430	7.61602	7.64557	7.67324	7.69926	48
13	7.55068	7.58485	7.61653	7.64605	7.67369	7.69968	47
14	7.55127	7.58540	7.61704	7.64652	7.67414	7.70010	46
15	7.55186	7.58594	7.61754	7.64700	7.67458	7.70052	45
16	7.55245	7.58649	7.61805	7.64747	7.67503	7.70094	44
17	7.55304	7.58704	7.61856	7.64795	7.67547	7.70136	43
18	7.55363	7.58758	7.61906	7.64842	7.67592	7.70178	42
19	7.55422	7.58812	7.61957	7.64889	7.67636	7.70219	41
20	7.55481	7.58867	7.62008	7.64937	7.67680	7.70261	40
21	7.55539	7.58921	7.62058	7.64984	7.67725	7.70303	39
22	7.55598	7.58975	7.62108	7.65031	7.67769	7.70345	38
23	7.55657	7.59029	7.62159	7.65078	7.67813	7.70386	37
24	7.55715	7.59083	7.62209	7.65125	7.67857	7.70428	36
25	7.55773	7.59137	7.62259	7.65172	7.67901	7.70469	35
26	7.55832	7.59191	7.62310	7.65219	7.67946	7.70511	34
27	7.55890	7.59245	7.62360	7.65266	7.67990	7.70553	33
28	7.55948	7.59299	7.62410	7.65313	7.68034	7.70594	32
29	7.56006	7.59353	7.62460	7.65359	7.68077	7.70635	31
30	7.56064	7.59406	7.62510	7.65406	7.68121	7.70677	30
"	47′	46′	45′	44′	43′	42′	"

″	12′	13′	14′	15′	16′	17′	″
30	7.56064	7.59406	7.62509	7.65406	7.68121	7.70676	30
31	7.56121	7.59459	7.62559	7.65452	7.68165	7.70718	29
32	7.56179	7.59513	7.62609	7.65499	7.68208	7.70759	28
33	7.56237	7.59566	7.62659	7.65546	7.68252	7.70800	27
34	7.56295	7.59620	7.62708	7.65592	7.68296	7.70841	26
35	7.56352	7.59673	7.62758	7.65638	7.68340	7.70883	25
36	7.56410	7.59726	7.62808	7.65685	7.68383	7.70924	24
37	7.56467	7.59780	7.62857	7.65731	7.68427	7.70965	23
38	7.56524	7.59833	7.62907	7.65778	7.68470	7.71006	22
39	7.56582	7.59886	7.62956	7.65824	7.68514	7.71047	21
40	7.56639	7.59939	7.63006	7.65870	7.68557	7.71088	20
41	7.56696	7.59992	7.63055	7.65916	7.68601	7.71129	19
42	7.56753	7.60045	7.63104	7.65962	7.68644	7.71170	18
43	7.56810	7.60097	7.63153	7.66009	7.68687	7.71211	17
44	7.56867	7.60150	7.63203	7.66055	7.68731	7.71251	16
45	7.56924	7.60203	7.63252	7.66101	7.68774	7.71292	15
46	7.56980	7.60255	7.63301	7.66146	7.68817	7.71333	14
47	7.57037	7.60308	7.63350	7.66192	7.68860	7.71374	13
48	7.57094	7.60360	7.63399	7.66238	7.68903	7.71414	12
49	7.57150	7.60413	7.63448	7.66284	7.68946	7.71455	11
50	7.57206	7.60465	7.63496	7.66330	7.68989	7.71496	10
51	7.57263	7.60517	7.63545	7.66375	7.69032	7.71536	9
52	7.57319	7.60570	7.63594	7.66421	7.69075	7.71577	8
53	7.57375	7.60622	7.63642	7.66467	7.69118	7.71617	7
54	7.57431	7.60674	7.63691	7.66512	7.69161	7.71658	6
55	7.57488	7.60726	7.63740	7.66558	7.69204	7.71698	5
56	7.57544	7.60778	7.63788	7.66603	7.69247	7.71739	4
57	7.57599	7.60830	7.63837	7.66649	7.69289	7.71779	3
58	7.57655	7.60882	7.63885	7.66694	7.69332	7.71819	2
59	7.57711	7.60934	7.63933	7.66739	7.69375	7.71859	1
60	7.57767	7.60985	7.63982	7.66784	7.69417	7.71900	0
″	47′	46′	45′	44′	43′	42′	″

"	12′	13′	14′	15′	16′	17′	"
30	7.56064	7.59406	7.62510	7.65406	7.68121	7.70677	30
31	7.56122	7.59460	7.62560	7.65453	7.68165	7.70718	29
32	7.56179	7.59513	7.62609	7.65499	7.68209	7.70759	28
33	7.56237	7.59567	7.62659	7.65546	7.68253	7.70801	27
34	7.56295	7.59620	7.62709	7.65592	7.68296	7.70842	26
35	7.56352	7.59673	7.62759	7.65639	7.68340	7.70883	25
36	7.56410	7.59727	7.62808	7.65685	7.68384	7.70924	24
37	7.56467	7.59780	7.62858	7.65732	7.68427	7.70965	23
38	7.56525	7.59833	7.62907	7.65778	7.68471	7.71006	22
39	7.56582	7.59886	7.62957	7.65824	7.68514	7.71047	21
40	7.56639	7.59939	7.63006	7.65871	7.68558	7.71088	20
41	7.56696	7.59992	7.63055	7.65917	7.68601	7.71129	19
42	7.56753	7.60045	7.63105	7.65963	7.68645	7.71170	18
43	7.56810	7.60098	7.63154	7.66009	7.68688	7.71211	17
44	7.56867	7.60150	7.63203	7.66055	7.68731	7.71252	16
45	7.56924	7.60203	7.63252	7.66101	7.68774	7.71293	15
46	7.56981	7.60256	7.63301	7.66147	7.68818	7.71334	14
47	7.57037	7.60308	7.63350	7.66193	7.68861	7.71374	13
48	7.57094	7.60361	7.63399	7.66239	7.68904	7.71415	12
49	7.57150	7.60413	7.63448	7.66284	7.68947	7.71456	11
50	7.57207	7.60466	7.63497	7.66330	7.68990	7.71496	10
51	7.57263	7.60518	7.63546	7.66376	7.69033	7.71537	9
52	7.57319	7.60570	7.63594	7.66421	7.69076	7.71577	8
53	7.57376	7.60622	7.63643	7.66467	7.69119	7.71618	7
54	7.57432	7.60674	7.63692	7.66513	7.69162	7.71658	6
55	7.57488	7.60726	7.63740	7.66558	7.69204	7.71699	5
56	7.57544	7.60778	7.63789	7.66604	7.69247	7.71739	4
57	7.57600	7.60830	7.63837	7.66649	7.69290	7.71779	3
58	7.57656	7.60882	7.63885	7.66694	7.69333	7.71820	2
59	7.57711	7.60934	7.63934	7.66740	7.69375	7.71860	1
60	7.57767	7.60986	7.63982	7.66785	7.69418	7.71900	0
"	47′	46′	45′	44′	43′	42′	"

″	18′	19′	20′	21′	22′	23′	″
0	7.71900	7.74248	7.76475	7.78594	7.80615	7.82545	60
1	7.71940	7.74286	7.76512	7.78629	7.80647	7.82577	59
2	7.71980	7.74324	7.76548	7.78663	7.80680	7.82608	58
3	7.72020	7.74362	7.76584	7.78698	7.80713	7.82639	57
4	7.72060	7.74400	7.76620	7.78732	7.80746	7.82671	56
5	7.72100	7.74438	7.76656	7.78766	7.80779	7.82702	55
6	7.72140	7.74476	7.76692	7.78801	7.80812	7.82733	54
7	7.72180	7.74514	7.76728	7.78835	7.80844	7.82765	53
8	7.72220	7.74551	7.76764	7.78869	7.80877	7.82796	52
9	7.72260	7.74589	7.76800	8.78903	7.80910	7.82827	51
10	7.72300	7.74627	7.76836	7.78938	7.80942	7.82859	50
11	7.72340	7.74665	7.76872	7.78972	7.80975	7.82890	49
12	7.72380	7.74703	7.76907	7.79006	7.81008	7.82921	48
13	7.72419	7.74740	7.76943	7.79040	7.81040	7.82952	47
14	7.72459	7.74778	7.76979	7.79074	7.81073	7.82983	46
15	7.72499	7.74815	7.77015	7.79108	7.81105	7.83015	45
16	7.72538	7.74853	7.77051	7.79142	7.81138	7.83046	44
17	7.72578	7.74891	7.77086	7.79176	7.81170	7.83077	43
18	7.72618	7.74928	7.77122	7.79210	7.81203	7.83108	42
19	7.72657	7.74966	7.77158	7.79244	7.81235	7.83139	41
20	7.72697	7.75003	7.77193	7.79278	7.81268	7.83170	40
21	7.72736	7.75040	7.77229	7.79312	7.81300	7.83201	39
22	7.72775	7.75078	7.77264	7.79346	7.81332	7.83232	38
23	7.72815	7.75115	7.77300	7.79380	7.81365	7.83263	37
24	7.72854	7.75153	7.77335	7.79414	7.81397	7.83294	36
25	7.72894	7.75190	7.77371	7.79448	7.81429	7.83325	35
26	7.72933	7.75227	7.77406	7.79481	7.81462	7.83356	34
27	7.72972	7.75264	7.77442	7.79515	7.81494	7.83387	33
28	7.73011	7.75302	7.77477	7.79549	7.81526	7.83417	32
29	7.73050	7.75339	7.77512	7.79582	7.81558	7.83448	31
30	7.73090	7.75376	7.77548	7.79616	7.81591	7.83479	30
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
0	7.71900	7.74248	7.76476	7.78595	7.80615	7.82546	60
1	7.71940	7.74286	7.76512	7.78630	7.80648	7.82578	59
2	7.71981	7.74325	7.76548	7.78664	7.80681	7.82609	58
3	7.72021	7.74363	7.76585	7.78698	7.80714	7.82640	57
4	7.72061	7.74401	7.76621	7.78733	7.80747	7.82672	56
5	7.72101	7.74438	7.76657	7.78767	7.80780	7.82703	55
6	7.72141	7.74476	7.76693	7.78801	7.80812	7.82734	54
7	7.72181	7.74514	7.76729	7.78836	7.80845	7.82766	53
8	7.72221	7.74552	7.76765	7.78870	7.80878	7.82797	52
9	7.72261	7.74590	7.76801	7.78904	7.80911	7.82828	51
10	7.72301	7.74628	7.76837	7.78938	7.80943	7.82860	50
11	7.72340	7.74665	7.76872	7.78973	7.80976	7.82891	49
12	7.72380	7.74703	7.76908	7.79007	7.81009	7.82922	48
13	7.72420	7.74741	7.76944	7.79041	7.81041	7.82953	47
14	7.72460	7.74779	7.76980	7.79075	7.81074	7.82984	46
15	7.72499	7.74816	7.77016	7.79109	7.81106	7.83016	45
16	7.72539	7.74854	7.77051	7.79143	7.81139	7.83047	44
17	7.72579	7.74891	7.77087	7.79177	7.81171	7.83078	43
18	7.72618	7.74929	7.77123	7.79211	7.81204	7.83109	42
19	7.72658	7.74966	7.77158	7.79245	7.81236	7.83140	41
20	7.72697	7.75004	7.77194	7.79279	7.81269	7.83171	40
21	7.72737	7.75041	7.77230	7.79313	7.81301	7.83202	39
22	7.72776	7.75079	7.77265	7.79347	7.81333	7.83233	38
23	7.72815	7.75116	7.77301	7.79381	7.81366	7.83264	37
24	7.72855	7.75153	7.77336	7.79415	7.81398	7.83295	36
25	7.72894	7.75191	7.77372	7.79448	7.81430	7.83326	35
26	7.72933	7.75228	7.77407	7.79482	7.81463	7.83357	34
27	7.72973	7.75265	7.77442	7.79516	7.81495	7.83388	33
28	7.73012	7.75302	7.77478	7.79550	7.81527	7.83418	32
29	7.73051	7.75339	7.77513	7.79583	7.81559	7.83449	31
30	7.73090	7.75377	7.77549	7.79617	7.81591	7.83480	30
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
30	7.73090	7.75376	7.77548	7.79616	7.81591	7.83479	30
31	7.73129	7.75413	7.77583	7.79650	7.81623	7.83510	29
32	7.73168	7.75450	7.77618	7.79683	7.81655	7.83541	28
33	7.73207	7.75487	7.77654	7.79717	7.81687	7.83571	27
34	7.73246	7.75524	7.77689	7.79751	7.81719	7.83602	26
35	7.73285	7.75561	7.77724	7.79784	7.81751	7.83633	25
36	7.73324	7.75598	7.77759	7.79818	7.81783	7.83663	24
37	7.73363	7.75635	7.77794	7.79851	7.81815	7.83694	23
38	7.73401	7.75672	7.77829	7.79885	7.81847	7.83725	22
39	7.73440	7.75709	7.77864	7.79918	7.81879	7.83755	21
40	7.73479	7.75745	7.77899	7.79952	7.81911	7.83786	20
41	7.73518	7.75782	7.77934	7.79985	7.81943	7.83817	19
42	7.73557	7.75819	7.77969	7.80018	7.81975	7.83847	18
43	7.73595	7.75856	7.78004	7.80052	7.82007	7.83878	17
44	7.73634	7.75892	7.78039	7.80085	7.82039	7.83908	16
45	7.73673	7.75929	7.78074	7.80118	7.82070	7.83939	15
46	7.73711	7.75966	7.78109	7.80152	7.82102	7.83969	14
47	7.73750	7.76002	7.78144	7.80185	7.82134	7.84000	13
48	7.73788	7.76039	7.78179	7.80218	7.82166	7.84030	12
49	7.73827	7.76075	7.78213	7.80251	7.82198	7.84060	11
50	7.73865	7.76112	7.78248	7.80284	7.82229	7.84091	10
51	7.73904	7.76148	7.78283	7.80317	7.82261	7.84121	9
52	7.73942	7.76185	7.78318	7.80351	7.82293	7.84151	8
53	7.73980	7.76221	7.78352	7.80384	7.82324	7.84182	7
54	7.74019	7.76258	7.78387	7.80417	7.82356	7.84212	6
55	7.74057	7.76294	7.78422	7.80450	7.82387	7.84242	5
56	7.74095	7.76330	7.78456	7.80483	7.82419	7.84273	4
57	7.74133	7.76367	7.78491	7.80516	7.82451	7.84303	3
58	7.74171	7.76403	7.78525	7.80549	7.82482	7.84333	2
59	7.74210	7.76439	7.78560	7.80582	7.82514	7.84363	1
60	7.74248	7.76475	7.78594	7.80615	7.82545	7.84393	0
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
30	7.73090	7.75377	7.77549	7.79617	7.81591	7.83480	30
31	7.73129	7.75414	7.77584	7.79651	7.81624	7.83511	29
32	7.73168	7.75451	7.77619	7.79684	7.81656	7.83542	28
33	7.73207	7.75488	7.77654	7.79718	7.81688	7.83572	27
34	7.73246	7.75525	7.77690	7.79751	7.81720	7.83603	26
35	7.73285	7.75562	7.77725	7.79785	7.81752	7.83634	25
36	7.73324	7.75599	7.77760	7.79819	7.81784	7.83664	24
37	7.73363	7.75636	7.77795	7.79852	7.81816	7.83695	23
38	7.73402	7.75672	7.77830	7.79886	7.81848	7.83726	22
39	7.73441	7.75709	7.77865	7.79919	7.81880	7.83756	21
40	7.73480	7.75746	7.77900	7.79952	7.81912	7.83787	20
41	7.73518	7.75783	7.77935	7.79986	7.81944	7.83818	19
42	7.73557	7.75820	7.77970	7.80019	7.81976	7.83848	18
43	7.73596	7.75856	7.78005	7.80053	7.82008	7.83879	17
44	7.73635	7.75893	7.78040	7.80086	7.82040	7.83909	16
45	7.73673	7.75930	7.78075	7.80119	7.82071	7.83940	15
46	7.73712	7.75966	7.78110	7.80152	7.82103	7.83970	14
47	7.73750	7.76003	7.78145	7.80186	7.82135	7.84001	13
48	7.73789	7.76040	7.78179	7.80219	7.82167	7.84031	12
49	7.73827	7.76076	7.78214	7.80252	7.82198	7.84061	11
50	7.73866	7.76113	7.78249	7.80285	7.82230	7.84092	10
51	7.73904	7.76149	7.78284	7.80318	7.82262	7.84122	9
52	7.73943	7.76186	7.78318	7.80351	7.82294	7.84152	8
53	7.73981	7.76222	7.78353	7.80385	7.82325	7.84183	7
54	7.74019	7.76258	7.78388	7.80418	7.82357	7.84213	6
55	7.74058	7.76295	7.78422	7.80451	7.82388	7.84243	5
56	7.74096	7.76331	7.78457	7.80484	7.82420	7.84274	4
57	7.74134	7.76367	7.78492	7.80517	7.82452	7.84304	3
58	7.74172	7.76404	7.78526	7.80550	7.82483	7.84334	2
59	7.74210	7.76440	7.78561	7.80583	7.82515	7.84364	1
60	7.74248	7.76476	7.78595	7.80615	7.82546	7.84394	0
″	41′	40′	39′	38′	37′	36′	″

″	24′	25′	26′	27′	28′	29′	″
0	7.84393	7.86166	7.87870	7.89509	7.91088	7.92612	60
1	7.84424	7.86195	7.87897	7.89535	7.91114	7.92637	59
2	7.84454	7.86224	7.87925	7.89562	7.91140	7.92662	58
3	7.84484	7.86253	7.87953	7.89589	7.91165	7.92687	57
4	7.84514	7.86282	7.87981	7.89616	7.91191	7.92712	56
5	7.84544	7.86311	7.88009	7.89642	7.91217	7.92737	55
6	7.84574	7.86340	7.88036	7.89669	7.91243	7.92761	54
7	7.84604	7.86368	7.88064	7.89696	7.91269	7.92786	53
8	7.84634	7.86397	7.88092	7.89722	7.91294	7.92811	52
9	7.84664	7.86426	7.88119	7.89749	7.91320	7.92836	51
10	7.84694	7.86455	7.88147	7.89776	7.91346	7.92861	50
11	7.84724	7.86484	7.88175	7.89802	7.91371	7.92886	49
12	7.84754	7.86512	7.88202	7.89829	7.91397	7.92910	48
13	7.84784	7.86541	7.88230	7.89856	7.91423	7.92935	47
14	7.84814	7.86570	7.88258	7.89882	7.91448	7.92960	46
15	7.84843	7.86598	7.88285	7.89909	7.91474	7.92985	45
16	7.84873	7.86627	7.88313	7.89935	7.91500	7.93009	44
17	7.84903	7.86656	7.88340	7.89962	7.91525	7.93034	43
18	7.84933	7.86684	7.88368	7.89988	7.91551	7.93059	42
19	7.84963	7.86713	7.88395	7.90015	7.91576	7.93084	41
20	7.84992	7.86741	7.88423	7.90041	7.91602	7.93108	40
21	7.85022	7.86770	7.88450	7.90068	7.91627	7.93133	39
22	7.85052	7.86799	7.88478	7.90094	7.91653	7.93158	38
23	7.85082	7.86827	7.88505	7.90121	7.91678	7.93182	37
24	7.85111	7.86856	7.88533	7 90147	7.91704	7.93207	36
25	7.85141	7.86884	7.88560	7.90174	7.91729	7.93231	35
26	7.85171	7.86913	7.88587	7.90200	7.91755	7.93256	34
27	7.85200	7.86941	7.88615	7.90226	7.91780	7.93281	33
28	7.85230	7.86969	7.88642	7.90253	7.91806	7.93305	32
29	7.85259	7.86998	7.88669	7.90279	7.91831	7.93330	31
30	7.85289	7.87026	7.88697	7.90305	7.91857	7.93354	30
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
0	7.84394	7.86167	7.87871	7.89510	7.91089	7.92613	60
1	7.84425	7.86196	7.87899	7.89537	7.91115	7.92638	59
2	7.84455	7.86225	7.87926	7.89563	7.91141	7.92663	58
3	7.84485	7.86254	7.87954	7.89590	7.91167	7.92688	57
4	7.84515	7.86283	7.87982	7.89617	7.91193	7.92713	56
5	7.84545	7.86312	7.88010	7.89644	7.91218	7.92738	55
6	7.84575	7.86341	7.88037	7.89670	7.91244	7.92763	54
7	7.84605	7.86370	7.88065	7.89697	7.91270	7.92788	53
8	7.84635	7.86398	7.88093	7.89724	7.91296	7.92813	52
9	7.84665	7.86427	7.88121	7.89750	7.91321	7.92838	51
10	7.84695	7.86456	7.88148	7.89777	7.91347	7.92862	50
11	7.84725	7.86485	7.88176	7.89804	7.91373	7.92887	49
12	7.84755	7.86513	7.88204	7.89830	7.91398	7.92912	48
13	7.84785	7.86542	7.88231	7.89857	7.91424	7.92937	47
14	7.84815	7.86571	7.88259	7.89884	7.91450	7.92961	46
15	7.84845	7.86600	7.88286	7.89910	7.91475	7.92986	45
16	7.84874	7.86628	7.88314	7.89937	7.91501	7.93011	44
17	7.84904	7.86657	7.88342	7.89963	7.91527	7.93036	43
18	7.84934	7.86685	7.88369	7.89990	7.91552	7.93060	42
19	7.84964	7.86714	7.88397	7.90016	7.91578	7.93085	41
20	7.84993	7.86743	7.88424	7.90043	7.91603	7.93110	40
21	7.85023	7.86771	7.88452	7.90069	7.91629	7.93134	39
22	7.85053	7.86800	7.88479	7.90096	7.91654	7.93159	38
23	7.85083	7.86828	7.88506	7.90122	7.91680	7.93184	37
24	7.85112	7.86857	7.88534	7.90149	7.91705	7.93208	36
25	7.85142	7.86885	7.88561	7.90175	7.91731	7.93233	35
26	7.85172	7.86914	7.88589	7.90201	7.91756	7.93258	34
27	7.85201	7.86942	7.88616	7.90228	7.91782	7.93282	33
28	7.85231	7.86971	7.88643	7.90254	7.91807	7.93307	32
29	7.85260	7.86999	7.88671	7.90280	7.91833	7.93331	31
30	7.85290	7.87027	7.88698	7.90307	7.91858	7.93356	30
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
30	7.85289	7.87026	7.88697	7.90305	7.91857	7.93354	30
31	7.85318	7.87055	7.88724	7.90332	7.91882	7.93379	29
32	7.85348	7.87083	7.88751	7.90358	7.91907	7.93403	28
33	7.85377	7.87111	7.88779	7.90384	7.91933	7.93428	27
34	7.85407	7.87140	7.88806	7.90411	7.91958	7.93452	26
35	7.85436	7.87168	7.88833	7.90437	7.91983	7.93477	25
36	7.85466	7.87196	7.88860	7.90463	7.92009	7.93501	24
37	7.85495	7.87224	7.88888	7.90489	7.92034	7.93526	23
38	7.85525	7.87253	7.88915	7.90515	7.92059	7.93550	22
39	7.85554	7.87281	7.88942	7.90542	7.92085	7.93575	21
40	7.85583	7.87309	7.88969	7.90568	7.92110	7.93599	20
41	7.85613	7.87337	7.88996	7.90594	7.92135	7.93623	19
42	7.85642	7.87366	7.89023	7.90620	7.92160	7.93648	18
43	7.85671	7.87394	7.89050	7.90646	7.92186	7.93672	17
44	7.85701	7.87422	7.89077	7.90672	7.92211	7.93696	16
45	7.85730	7.87450	7.89105	7.90698	7.92236	7.93721	15
46	7.85759	7.87478	7.89132	7.90725	7.92261	7.93745	14
47	7.85788	7.87506	7.89159	7.90751	7.92286	7.93769	13
48	7.85817	7.87534	7.89186	7.90777	7.92311	7.93794	12
49	7.85847	7.87562	7.89213	7.90803	7.92336	7.93818	11
50	7.85876	7.87590	7.89240	7.90829	7.92362	7.93842	10
51	7.85905	7.87618	7.89267	7.90855	7.92387	7.93866	9
52	7.85934	7.87646	7.89294	7.90881	7.92412	7.93891	8
53	7.85963	7.87674	7.89320	7.90907	7.92437	7.93915	7
54	7.85992	7.87702	7.89347	7.90933	7.92462	7.93939	6
55	7.86021	7.87730	7.89374	7.90958	7.92487	7.93963	5
56	7.86050	7.87758	7.89401	7.90984	7.92512	7.93988	4
57	7.86079	7.87786	7.89428	7.91010	7.92537	7.94012	3
58	7.86108	7.87814	7.89455	7.91036	7.92562	7.94036	2
59	7.86137	7.87842	7.89482	7.91062	7.92587	7.94060	1
60	7.86166	7.87870	7.89509	7.91088	7.92612	7.94084	0
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
30	7.85290	7.87027	7.88698	7.90307	7.91858	7.93356	30
31	7.85319	7.87056	7.88725	7.90333	7.91883	7.93380	29
32	7.85349	7.87084	7.88753	7.90359	7.91909	7.93405	28
33	7.85378	7.87113	7.88780	7.90386	7.91934	7.93429	27
34	7.85408	7.87141	7.88807	7.90412	7.91960	7.93454	26
35	7.85437	7.87169	7.88834	7.90438	7.91985	7.93478	25
36	7.85467	7.87197	7.88862	7.90464	7.92010	7.93503	24
37	7.85496	7.87226	7.88889	7.90491	7.92036	7.93527	23
38	7.85526	7.87254	7.88916	7.90517	7.92061	7.93552	22
39	7.85555	7.87282	7.88943	7.90543	7.92086	7.93576	21
40	7.85584	7.87310	7.88970	7.90569	7.92111	7.93601	20
41	7.85614	7.87339	7.88997	7.90595	7.92137	7.93625	19
42	7.85643	7.87367	7.89025	7.90622	7.92162	7.93649	18
43	7.85672	7.87395	7.89052	7.90648	7.92187	7.93674	17
44	7.85702	7.87423	7.89079	7.90674	7.92212	7.93698	16
45	7.85731	7.87451	7.89106	7.90700	7.92237	7.93722	15
46	7.85760	7.87479	7.89133	7.90726	7.92263	7.93747	14
47	7.85789	7.87507	7.89160	7.90752	7.92288	7.93771	13
48	7.85819	7.87535	7.89187	7.90778	7.92313	7.93795	12
49	7.85848	7.87563	7.89214	7.90804	7.92338	7.93820	11
50	7.85877	7.87591	7.89241	7.90830	7.92363	7.93844	10
51	7.85906	7.87619	7.89268	7.90856	7.92388	7.93868	9
52	7.85935	7.87647	7.89295	7.90882	7.92413	7.93892	8
53	7.85964	7.87675	7.89322	7.90908	7.92438	7.93917	7
54	7.85993	7.87703	7.89349	7.90934	7.92463	7.93941	6
55	7.86022	7.87731	7.89376	7.90960	7.92488	7.93965	5
56	7.86051	7.87759	7.89403	7.90986	7.92513	7.93990	4
57	7.86080	7.87787	7.89429	7.91012	7.92538	7.94013	3
58	7.86109	7.87815	7.89456	7.91038	7.92563	7.94038	2
59	7.86138	7.87843	7.89483	7.91064	7.92588	7.94062	1
60	7.86167	7.87871	7.89510	7.91089	7.92613	7.94086	0
″	35′	34′	33′	32′	31′	30′	″

″	30′	31′	32′	33′	34′	35′	″
0	7.94084	7.95508	7.96887	7.98223	7.99520	8.00779	60
1	7.94108	7.95532	7.96910	7.98245	7.99541	8.00799	59
2	7.94132	7.95555	7.96932	7.98267	7.99562	8.00820	58
3	7.94157	7.95578	7.96955	7.98289	7.99584	8.00841	57
4	7.94181	7.95601	7.96977	7.98311	7.99605	8.00861	56
5	7.94205	7.95625	7.97000	7.98333	7.99626	8.00882	55
6	7.94229	7.95648	7.97022	7.98355	7.99647	8.00903	54
7	7.94253	7.95671	7.97045	7.98377	7.99669	8.00923	53
8	7.94277	7.95695	7.97068	7.98398	7.99690	8.00944	52
9	7.94301	7.95718	7.97090	7.98420	7.99711	8.00964	51
10	7.94325	7.95741	7.97113	7.98442	7.99732	8.00985	50
11	7.94349	7.95764	7.97135	7.98464	7.99753	8.01006	49
12	7.94373	7.95787	7.97158	7.98486	7.99775	8.01026	48
13	7.94397	7.95811	7.97180	7.98508	7.99796	8.01047	47
14	7.94421	7.95834	7.97202	7.98529	7.99817	8.01067	46
15	7.94445	7.95857	7.97225	7.98551	7.99838	8.01088	45
16	7.94469	7.95880	7.97247	7.98573	7.99859	8.01108	44
17	7.94492	7.95903	7.97270	7.98595	7.99880	8.01129	43
18	7.94516	7.95926	7.97292	7.98616	7.99901	8.01149	42
19	7.94540	7.95950	7.97315	7.98638	7.99922	8.01170	41
20	7.94564	7.95973	7.97337	7.98660	7.99943	8.01190	40
21	7.94588	7.95996	7.97359	7.98682	7.99965	8.01211	39
22	7.94612	7.96019	7.97382	7.98703	7.99986	8.01231	38
23	7.94636	7.96042	7.97404	7.98725	8.00007	8.01252	37
24	7.94659	7.96065	7.97426	7.98747	8.00028	8.01272	36
25	7.94683	7.96088	7.97449	7.98768	8.00049	8.01293	35
26	7.94707	7.96111	7.97471	7.98790	8.00070	8.01313	34
27	7.94731	7.96134	7.97493	7.98812	8.00091	8.01333	33
28	7.94755	7.96157	7.97516	7.98833	8.00112	8.01354	32
29	7.94778	7.96180	7.97538	7.98855	8.00133	8.01374	31
30	7.94802	7.96203	7.97560	7.98876	8.00154	8.01395	30
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
0	7.94086	7.95510	7.96889	7.98225	7.99522	8.00781	60
1	7.94110	7.95533	7.96911	7.98247	7.99543	8.00802	59
2	7.94134	7.95557	7.96934	7.98269	7.99564	8.00822	58
3	7.94158	7.95580	7.96957	7.98291	7.99586	8.00843	57
4	7.94182	7.95603	7.96979	7.98313	7.99607	8.00864	56
5	7.94206	7.95627	7.97002	7.98335	7.99628	8.00884	55
6	7.94230	7.95650	7.97024	7.98357	7.99649	8.00905	54
7	7.94254	7.95673	7.97047	7.98379	7.99671	8.00925	53
8	7.94278	7.95696	7.97069	7.98400	7.99692	8.00946	52
9	7.94302	7.95720	7.97092	7.98422	7.99713	8.00967	51
10	7.94326	7.95743	7.97114	7.98444	7.99734	8.00987	50
11	7.94350	7.95766	7.97137	7.98466	7.99755	8.01008	49
12	7.94374	7.95789	7.97159	7.98488	7.99777	8.01028	48
13	7.94398	7.95812	7.97182	7.98510	7.99798	8.01049	47
14	7.94422	7.95836	7.97204	7.98531	7.99819	8.01070	46
15	7.94446	7.95859	7.97227	7.98553	7.99840	8.01090	45
16	7.94470	7.95882	7.97249	7.98575	7.99861	8.01111	44
17	7.94494	7.95905	7.97272	7.98597	7.99882	8.01131	43
18	7.94518	7.95928	7.97294	7.98618	7.99903	8.01152	42
19	7.94542	7.95951	7.97317	7.98640	7.99925	8.01172	41
20	7.94566	7.95974	7.97339	7.98662	7.99946	8.01193	40
21	7.94590	7.95998	7.97361	7.98684	7.99967	8.01213	39
22	7.94613	7.96021	7.97384	7.98705	7.99988	8.01234	38
23	7.94637	7.96044	7.97406	7.98727	8.00009	8.01254	37
24	7.94661	7.96067	7.97428	7.98749	8.00030	8.01274	36
25	7.94685	7.96090	7.97451	7.98770	8.00051	8.01295	35
26	7.94709	7.96113	7.97473	7.98792	8.00072	8.01315	34
27	7.94732	7.96136	7.97495	7.98814	8.00093	8.01336	33
28	7.94756	7.96159	7.97518	7.98835	8.00114	8.01356	32
29	7.94780	7.96182	7.97540	7.98857	8.00135	8.01377	31
30	7.94804	7.96205	7.97562	7.98878	8.00156	8.01397	30
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
30	7.94802	7.96203	7.97560	7.98876	8.00154	8.01395	30
31	7.94826	7.96226	7.97583	7.98898	8.00175	8.01415	29
32	7.94849	7.96249	7.97605	7.98920	8.00196	8.01435	28
33	7.94873	7.96272	7.97627	7.98941	8.00217	8.01456	27
34	7.94897	7.96295	7.97649	7.98963	8.00238	8.01476	26
35	7.94921	7.96318	7.97672	7.98984	8.00259	8.01496	25
36	7.94944	7.96341	7.97694	7.99006	8.00279	8.01517	24
37	7.94968	7.96364	7.97716	7.99027	8.00300	8.01537	23
38	7.94991	7.96386	7.97738	7.99049	8.00321	8.01557	22
39	7.95015	7.96409	7.97760	7.99070	8.00342	8.01578	21
40	7.95039	7.96432	7.97782	7.99092	8.00363	8.01598	20
41	7.95062	7.96455	7.97805	7.99113	8.00384	8.01618	19
42	7.95086	7.96478	7.97827	7.99135	8.00405	8.01639	18
43	7.95109	7.96501	7.97849	7.99156	8.00426	8.01659	17
44	7.95133	7.96524	7.97871	7.99178	8.00447	8.01679	16
45	7.95157	7.96546	7.97893	7.99199	8.00467	8.01699	15
46	7.95180	7.96569	7.97915	7.99221	8.00488	8.01720	14
47	7.95204	7.96592	7.97937	7.99242	8.00509	8.01740	13
48	7.95227	7.96615	7.97959	7.99264	8.00530	8.01760	12
49	7.95251	7.96637	7.97981	7.99285	8.00551	8.01780	11
50	7.95274	7.96660	7.98003	7.99306	8.00571	8.01801	10
51	7.95298	7.96683	7.98025	7.99328	8.00592	8.01821	9
52	7.95321	7.96706	7.98048	7.99349	8.00613	8.01841	8
53	7.95344	7.96728	7.98070	7.99371	8.00634	8.01861	7
54	7.95368	7.96751	7.98092	7.99392	8.00654	8.01881	6
55	7.95391	7.96774	7.98114	7.99413	8.00675	8.01901	5
56	7.95415	7.96796	7.98136	7.99435	8.00696	8.01922	4
57	7.95438	7.96819	7.98157	7.99456	8.00717	8.01942	3
58	7.95461	7.96842	7.98179	7.99477	8.00737	8.01962	2
59	7.95485	7.96864	7.98201	7.99499	8.00758	8.01982	1
60	7.95508	7.96887	7.98223	7.99520	8.00779	8.02002	0
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
30	7.94804	7.96205	7.97562	7.98878	8.00156	8.01397	30
31	7.94827	7.96228	7.97585	7.98900	8.00177	8.01417	29
32	7.94851	7.96251	7.97607	7.98922	8.00198	8.01438	28
33	7.94875	7.96274	7.97629	7.98943	8.00219	8.01458	27
34	7.94899	7.96297	7.97651	7.98965	8.00240	8.01478	26
35	7.94922	7.96320	7.97673	7.98986	8.00261	8.01499	25
36	7.94946	7.96343	7.97696	7.99008	8.00282	8.01519	24
37	7.94970	7.96365	7.97718	7.99029	8.00303	8.01539	23
38	7.94993	7.96388	7.97740	7.99051	8.00324	8.01560	22
39	7.95017	7.96411	7.97762	7.99073	8.00344	8.01580	21
40	7.95040	7.96434	7.97784	7.99094	8.00365	8.01600	20
41	7.95064	7.96457	7.97807	7.99116	8.00386	8.01621	19
42	7.95088	7.96480	7.97829	7.99137	8.00407	8.01641	18
43	7.95111	7.96503	7.97851	7.99158	8.00428	8.01661	17
44	7.95135	7.96525	7.97873	7.99180	8.00449	8.01682	16
45	7.95158	7.96548	7.97895	7.99201	8.00470	8.01702	15
46	7.95182	7.96571	7.97917	7.99223	8.00490	8.01722	14
47	7.95205	7.96594	7.97939	7.99244	8.00511	8.01742	13
48	7.95229	7.96617	7.97961	7.99266	8.00532	8.01762	12
49	7.95252	7.96639	7.97983	7.99287	8.00553	8.01783	11
50	7.95276	7.96662	7.98005	7.99308	8.00574	8.01803	10
51	7.95299	7.96685	7.98027	7.99330	8.00594	8.01823	9
52	7.95323	7.96708	7.98050	7.99351	8.00615	8.01843	8
53	7.95346	7.96730	7.98072	7.99373	8.00636	8.01863	7
54	7.95370	7.96753	7.98094	7.99394	8.00657	8.01884	6
55	7.95393	7.96776	7.98116	7.99415	8.00677	8.01904	5
56	7.95416	7.96798	7.98138	7.99437	8.00698	8.01924	4
57	7.95440	7.96821	7.98159	7.99458	8.00719	8.01944	3
58	7.95463	7.96844	7.98181	7.99479	8.00740	8.01964	2
59	7.95487	7.96866	7.98203	7.99501	8.00760	8.01984	1
60	7.95510	7.96889	7.98225	7.99522	8.00781	8.02004	0
″	29′	28′	27′	26′	25′	24′	″

″	36′	37′	38′	39′	40′	41′	″
0	8.02002	8.03192	8.04350	8.05478	8.06578	8.07650	60
1	8.02022	8.03212	8.04369	8.05497	8.06596	8.07668	59
2	8.02042	8.03231	8.04388	8.05515	8.06614	8.07685	58
3	8.02062	8.03251	8.04407	8.05534	8.06632	8.07703	57
4	8.02082	8.03270	8.04426	8.05552	8.06650	8.07721	56
5	8.02102	8.03290	8.04445	8.05571	8.06668	8.07738	55
6	8.02123	8.03309	8.04464	8.05589	8.06686	8.07756	54
7	8.02143	8.03329	8.04483	8.05608	8.06704	8.07773	53
8	8.02163	8.03348	8.04502	8.05626	8.06722	8.07791	52
9	8.02183	8.03368	8.04521	8.05645	8.06740	8.07809	51
10	8.02203	8.03387	8.04540	8.05663	8.06758	8.07826	50
11	8.02223	8.03407	8.04559	8.05682	8.06776	8.07844	49
12	8.02243	8.03426	8.04578	8.05700	8.06794	8.07861	48
13	8.02263	8.03446	8.04597	8.05719	8.06812	8.07879	47
14	8.02283	8.03465	8.04616	8.05737	8.06830	8.07896	46
15	8.02303	8.03484	8.04635	8.05756	8.06848	8.07914	45
16	8.02323	8.03504	8.04654	8.05774	8.06866	8.07932	44
17	8.02343	8.03523	8.04673	8.05792	8.06884	8.07949	43
18	8.02362	8.03543	8.04692	8.05811	8.06902	8.07967	42
19	8.02382	8.03562	8.04710	8.05829	8.06920	8.07984	41
20	8.02402	8.03581	8.04729	8.05848	8.06938	8.08002	40
21	8.02422	8.03601	8.04748	8.05866	8.06956	8.08019	39
22	8.02442	8.03620	8.04767	8.05885	8.06974	8.08037	38
23	8.02462	8.03640	8.04786	8.05903	8.06992	8.08054	37
24	8.02482	8.03659	8.04805	8.05921	8.07010	8.08072	36
25	8.02502	8.03678	8.04824	8.05940	8.07028	8.08089	35
26	8.02522	8.03698	8.04843	8.05958	8.07046	8.08107	34
27	8.02542	8.03717	8.04861	8.05976	8.07063	8.08124	33
28	8.02561	8.03736	8.04880	8.05995	8.07081	8.08141	32
29	8.02581	8.03756	4.04899	8.06013	8.07099	8.08159	31
30	8.02601	8.03775	8.04918	8.06031	8.07117	8.08176	30
″	23′	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
0	8.02004	8.03194	8.04353	8.05481	8.06581	8.07653	60
1	8.02025	8.03214	8.04372	8.05499	8.06599	8.07671	59
2	8.02045	8.03234	8.04391	8.05518	8.06617	8.07688	58
3	8.02065	8.03253	8.04410	8.05537	8.06635	8.07706	57
4	8.02085	8.03273	8.04429	8.05555	8.06653	8.07724	56
5	8.02105	8.03292	8.04448	8.05574	8.06671	8.07741	55
6	8.02125	8.03312	8.04467	8.05592	8.06689	8.07759	54
7	8.02145	8.03331	8.04486	8.05611	8.06707	8.07776	53
8	8.02165	8.03351	8.04505	8.05629	8.06725	8.07794	52
9	8.02185	8.03370	8.04524	8.05648	8.06743	8.07812	51
10	8.02205	8.03390	8.04543	8.05666	8.06761	8.07829	50
11	8.02225	8.03409	8.04562	8.05685	8.06779	8.07847	49
12	8.02245	8.03429	8.04581	8.05703	8.06797	8.07864	48
13	8.02265	8.03448	8.04600	8.05722	8.06815	8.07882	47
14	8.02285	8.03468	8.04619	8.05740	8.06833	8.07900	46
15	8.02305	8.03487	8.04638	8.05758	8.06851	8.07917	45
16	8.02325	8.03506	8.04656	8.05777	8.06869	8.07935	44
17	8.02345	8.03526	8.04675	8.05795	8.06887	8.07952	43
18	8.02365	8.03545	8.04694	8.05814	8.06905	8.07970	42
19	8.02385	8.03565	8.04713	8.05832	8.06923	8.07987	41
20	8.02405	8.03584	8.04732	8.05851	8.06941	8.08005	40
21	8.02425	8.03603	8.04751	8.05869	8.06959	8.08022	39
22	8.02445	8.03623	8.04770	8.05887	8.06977	8.08040	38
23	8.02464	8.03642	8.04789	8.05906	8.06995	8.08057	37
24	8.02484	8.03661	8.04808	8.05924	8.07013	8.08075	36
25	8.02504	8.03681	8.04826	8.05943	8.07031	8.08092	35
26	8.02524	8.03700	8.04845	8.05961	8.07049	8.08110	34
27	8.02544	8.03720	8.04864	8.05979	8.07066	8.08127	33
28	8.02564	8.03739	8.04883	8.05998	8.07084	8.08145	32
29	8.02584	8.03758	8.04902	8.06016	8.07102	8.08162	31
30	8.02604	8.03777	8.04921	8.06034	8.07120	8.08180	30
″	23′	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
30	8.02601	8.03775	8.04918	8.06031	8.07117	8.08176	30
31	8.02621	8.03794	8.04937	8.06050	8.07135	8.08194	29
32	8.02641	8.03813	8.04955	8.06068	8.07153	8.08211	28
33	8.02661	8.03833	8.04974	8.06086	8.07171	8.08229	27
34	8.02680	8.03852	8.04993	8.06105	8.07189	8.08246	26
35	8.02700	8.03871	8.05012	8.06123	8.07206	8.08263	25
36	8.02720	8.03891	8.05030	8.06141	8.07224	8.08281	24
37	8.02740	8.03910	8.05049	8.06159	8.07242	8.08298	23
38	8.02759	8.03929	8.05068	8.06178	8.07260	8.08316	22
39	8.02779	8.03948	8.05087	8.06196	8.07278	8.08333	21
40	8.02799	8.03967	8.05105	8.06214	8.07295	8.08350	20
41	8.02819	8.03987	8.05124	8.06232	8.07313	8.08368	19
42	8.02838	8.04006	8.05143	8.06251	8.07331	8.08385	18
43	8.02858	8.04025	8.05161	8.06269	8.07349	8.08403	17
44	8.02878	8.04044	8.05180	8.06287	8.07367	8.08420	16
45	8.02898	8.04063	8.05199	8.06305	8.07384	8.08437	15
46	8.02917	8.04083	8.05218	8.06324	8.07402	8.08455	14
47	8.02937	8.04102	8.05236	8.06342	8.07420	8.08472	13
48	8.02957	8.04121	8.05255	8.06360	8·07438	8.08489	12
49	8.02976	8.04140	8.05274	8.06378	8.07455	8.08506	11
50	8.02996	8.04159	8.05292	8.06396	8.07473	8.08524	10
51	8.03016	8.04178	8.05311	8.06414	8.07491	8.08541	9
52	8.03035	8.04197	8.05329	8.06433	8.07509	8.08558	8
53	8.03055	8.04217	8.05348	8.06451	8.07526	8.08576	7
54	8.03074	8.04236	8.05367	8.06469	8.07544	8.08593	6
55	8.03094	8.04255	8.05385	8.06487	8.07562	8.08610	5
56	8.03114	8.04274	8.05404	8.06505	8.07579	8.08627	4
57	8.03133	8.04293	8.05422	8.06523	8.07597	8.08645	3
58	8.03153	8.04312	8.05441	8.06541	8.07615	8.08662	2
59	8.03172	8.04331	8.05460	8.06560	8.07632	8.08679	1
60	8.03192	8.04350	8.05478	8.06578	8.07650	8.08696	0
″	23′	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
30	8.02604	8.03777	8.04921	8.06034	8.07120	8.08180	30
31	8.02623	8.03797	8.04939	8.06053	8.07138	8.08197	29
32	8.02643	8.03816	8.04958	8.06071	8.07156	8.08214	28
33	8.02663	8.03835	8.04977	8.06089	8.07174	8.08232	27
34	8.02683	8.03855	8.04996	8.06107	8.07192	8.08249	26
35	8.02703	8.03874	8.05014	8.06126	8.07209	8.08267	25
36	8.02722	8.03893	8.05033	8.06144	8.07227	8.08284	24
37	8.02742	8.03912	8.05052	8.06162	8.07245	8.08301	23
38	8.02762	8.03932	8.05071	8.06181	8.07263	8.08319	22
39	8.02782	8.03951	8.05089	8.06199	8.07281	8.08336	21
40	8.02801	8.03970	8.05108	8.06217	8.07298	8.08354	20
41	8.02821	8.03989	8.05127	8.06235	8.07316	8.08371	19
42	8.02841	8.04008	8.05146	8.06254	8.07334	8.08388	18
43	8.02861	8.04028	8.05164	8.06272	8.07352	8.08406	17
44	8.02880	8.04047	8.05183	8.06290	8.07370	8.08423	16
45	8.02900	8.04066	8.05202	8.06308	8.07337	8.08440	15
46	8.02920	8.04085	8.05220	8.06326	8.07405	8.08458	14
47	8.02939	8.04104	8.03239	8.06345	8.07423	8.08475	13
48	8.02959	8.04124	8.05258	8.06363	8.07441	8.08492	12
49	8.02979	8.04143	8.05276	8.06381	8.07458	8.08510	11
50	8.02998	8.04162	8.05295	8.06399	8.07476	8.08527	10
51	8.03018	8.04181	8.05314	8.06417	8.07494	8.08544	9
52	8.03038	8.04200	8.05332	8.06436	8.07512	8.08562	8
53	8.03057	8.04219	8.05351	8.06454	8.07529	8.08579	7
54	8.03077	8.04238	8.05369	8.06472	8.07547	8.08596	6
55	8.03097	8.04257	8.05388	8.06490	8.07565	8.08613	5
56	8.03116	8.04276	8.05407	8.06508	8.07582	8.08631	4
57	8.03136	8.04296	8.05425	8.06526	8.07600	8.08648	3
58	8.03155	8.04315	8.05444	8.06544	8.07618	8.08665	2
59	8.03175	8.04334	8.05462	8.06562	8.07635	8.08682	1
60	8.03194	8.04353	8.05481	8.06581	8.07653	8.08700	0
″	23′	22′	21′	20′	19′	18′	″

″	42′	43′	44′	45′	46′	47′	″
0	8.08696	8.09718	8.10717	8.11693	8.12647	8.13581	60
1	8.08714	8.09735	8.10733	8.11709	8.12663	8.13596	59
2	8.08731	8.09752	8.10750	8.11725	8.12679	8.13612	58
3	8.08748	8.09769	8.10766	8.11741	8.12694	8.13627	57
4	8.08765	8.09786	8.10782	8.11757	8.12710	8.13643	56
5	8.08783	8.09802	8.10799	8.11773	8.12726	8.13658	55
6	8.08800	8.09819	8.10815	8,11789	8.12741	8.13673	54
7	8.08817	8.09836	8.10832	8.11805	8.12757	8.13689	53
8	8.08834	8.09853	8.10848	8.11821	8.12773	8.13704	52
9	8.08851	8.09870	8.10864	8.11837	8.12788	8.13719	51
10	8.08868	8.09886	8.10881	8.11853	8.12804	8.13735	50
11	8.08886	8.09903	8.10897	8.11869	8.12820	8.13750	49
12	8.08903	8.09920	8.10914	8.11885	8.12836	8.13765	48
13	8.08920	8.09937	8.10930	8.11901	8.12851	8.13781	47
14	8.08937	8.09953	8.10946	8.11917	8.12867	8.13796	46
15	8.08954	8.09970	8.10963	8.11933	8.12882	8.13811	45
16	8.08971	8.09987	8.10979	8.11949	8.12898	8.13827	44
17	8.08988	8.10004	8.10995	8.11965	8.12914	8.13842	43
18	8.09006	8.10020	8.11012	8.11981	8.12929	8.13857	42
19	8.09023	8.10037	8.11028	8.11997	8.12945	8.13873	41
20	8.09040	8.10054	8.11044	8.12013	8.12961	8.13888	40
21	8.09057	8.10070	8.11061	8.12029	8.12976	8.13903	39
22	8.09074	8.10087	8.11077	8.12045	8.12992	8.13919	38
23	8.09091	8.10104	8.11093	8.12061	8.13007	8.13934	37
24	8.09108	8.10120	8.11110	8.12077	8.13023	8.13949	36
25	8.09125	8.10137	8.11126	8.12093	8.13039	8.13964	35
26	8.09142	8.10154	8.11142	8.12109	8.13054	8.13980	34
27	8.09159	8.10170	8.11159	8.12125	8.13070	8.13995	33
28	8.09176	8.10187	8.11175	8.12141	8.13085	8.14010	32
29	8.09193	8.10204	8.11191	8.12157	8.13101	8.14025	31
30	8.09210	8.10220	8.11207	8.12172	8.13117	8.14041	30
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
0	8.08700	8.09722	8.10720	8.11696	8.12651	8.13585	60
1	8.08717	8.09739	8.10737	8.11712	8.12667	8.13601	59
2	8.08734	8.09755	8.10753	8.11729	8.12682	8.13616	58
3	8.08751	8.09772	8.10770	8.11745	8.12698	8.13631	57
4	8.08769	8.09789	8.10786	8.11761	8.12714	8.13647	56
5	8.08786	8.09806	8.10802	8.11777	8.12730	8.13662	55
6	8.08803	8.09823	8.10819	8.11793	8.12745	8.13677	54
7	8.08820	8.09839	8.10835	8.11809	8.12761	8.13693	53
8	8.08837	8.09856	8.10852	8.11825	8.12777	8.13708	52
9	8.08855	8.09873	8.10868	8.11841	8.12792	8.13724	51
10	8.08872	8.09890	8.10884	8.11857	8.12808	8.13739	50
11	8.08889	8.09907	8.10901	8.11873	8.12824	8.13754	49
12	8.08906	8.09923	8.10917	8.11889	8.12839	8.13770	48
13	8.08923	8.09940	8.10934	8.11905	8.12855	8.13785	47
14	8.08940	8.09957	8.10950	8.11921	8.12871	8.13800	46
15	8.08957	8.09974	8.10966	8.11937	8.12886	8.13816	45
16	8.08975	8.09990	8.10983	8.11953	8.12902	8.13831	44
17	8.08992	8.10007	8.10999	8.11969	8.12918	8.13846	43
18	8.09009	8.10024	8.11015	8.11985	8.12933	8.13861	42
19	8.09026	8.10040	8.11032	8.12001	8.12949	8.13877	41
20	8.09043	8.10057	8.11048	8.12017	8.12965	8.13892	40
21	8.09060	8.10074	8.11064	8.12033	8.12980	8.13907	39
22	8.09077	8.10091	8.11081	8.12049	8.12996	8.13923	38
23	8.09094	8.10107	8.11097	8.12065	8.13011	8.13938	37
24	8.09111	8.10124	8.11113	8.12081	8.13027	8.13953	36
25	8.09128	8.10141	8.11130	8.12097	8.13043	8.13968	35
26	8.09146	8.10157	8.11146	8.12113	8.13058	8.13984	34
27	8.09163	8.10174	8.11162	8.12129	8.13074	8.13999	33
28	8.09180	8.10191	8.11178	8.12144	8.13089	8.14014	32
29	8.09197	8.10207	8.11195	8.12160	8.13105	8.14029	31
30	8.09214	8.10224	8.11211	8.12176	8.13121	8.14045	30
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
30	8.09210	8.10220	8.11207	8.12172	8.13117	8.14041	30
31	8.09227	8.10237	8.11224	8.12188	8.13132	8.14056	29
32	8.09244	8.10254	8.11240	8.12204	8.13148	8.14071	28
33	8.09261	8.10270	8.11256	8.12220	8.13163	8.14086	27
34	8.09278	8.10287	8.11272	8.12236	8.13179	8.14101	26
35	8.09295	8.10303	8.11289	8.12252	8.13194	8.14117	25
36	8.09312	8.10320	8.11305	8.12268	8.13210	8.14132	24
37	8.09329	8.10337	8.11321	8.12284	8.13225	8.14147	23
38	8.09346	8.10353	8.11337	8.12300	8.13241	8.14162	22
39	8.09363	8.10370	8.11354	8.12315	8.13256	8.14178	21
40	8.09380	8.10386	8.11370	8.12331	8.13272	8.14193	20
41	8.09397	8.10403	8.11386	8.12347	8.13287	8.14208	19
42	8.09414	8.10420	8.11402	8.12363	8.13303	8.14223	18
43	8.09431	8.10436	8.11418	8.12379	8.13318	8.14238	17
44	8.09448	8.10453	8.11435	8.12395	8.13334	8.14253	16
45	8.09465	8.10469	8.11451	8.12410	8.13349	8.14269	15
46	8.09482	8.10486	8.11467	8.12426	8.13365	8.14284	14
47	8.09499	8.10502	8.11483	8.12442	8.13380	8.14299	13
48	8.09516	8.10519	8.11499	8.12458	8.13396	8.14314	12
49	8.09533	8.10535	8.11515	8.12474	8.13411	8.14329	11
50	8.09550	8.10552	8.11531	8.12489	8.13427	8.14344	10
51	8.09567	8.10568	8.11548	8.12505	8.13442	8.14359	9
52	8.09583	8.10585	8.11564	8.12521	8.13458	8.14375	8
53	8.09600	8.10601	8.11580	8.12537	8.13473	8.14390	7
54	8.09617	8.10618	8.11596	8.12553	8.13489	8.14405	6
55	8.09634	8.10634	8.11612	8.12568	8.13504	8.14420	5
56	8.09651	8.10651	8.11628	8.12584	8.13519	8.14435	4
57	8.09668	8.10667	8.11644	8.12600	8.13535	8.14450	3
58	8.09685	8.10684	8.11660	8.12616	8.13550	8.14465	2
59	8.09701	8.10700	8.11677	8.12631	8.13566	8.14480	1
60	8.09718	8.10717	8.11693	8.12647	8.13581	8.14495	0
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
30	8.09214	8.10224	8.11211	8.12176	8.13121	8.14045	30
31	8.09231	8.10240	8.11227	8.12192	8.13136	8.14060	29
32	8.09248	8.10257	8.11244	8.12208	8.13152	8.14075	28
33	8.09265	8.10274	8.11260	8.12224	8.13167	8.14090	27
34	8.09282	8.10290	8.11276	8.12240	8.13183	8.14106	26
35	8.09299	8.10307	8.11292	8.12256	8.13198	8.14121	25
36	8.09316	8.10324	8.11309	8.12272	8.13214	8.14136	24
37	8.09333	8.10340	8.11325	8.12288	8.13229	8.14151	23
38	8.09350	8.10357	8.11341	8.12303	8.13245	8.14166	22
39	8.09367	8.10373	8.11357	8.12319	8.13260	8.14182	21
40	8.09384	8.10390	8.11373	8.12335	8.13276	8.14197	20
41	8.09401	8.10407	8.11390	8.12351	8.13291	8.14212	19
42	8.09418	8.10423	8.11406	8.12367	8.13307	8.14227	18
43	8.09435	8.10440	8.11422	8.12383	8.13322	8.14242	17
44	8.09452	8.10456	8.11438	8.12398	8.13338	8.14258	16
45	8.09468	8.10473	8.11454	8.12414	8.13353	8.14273	15
46	8.09485	8.10489	8.11471	8.12430	8.13369	8.14288	14
47	8.09502	8.10506	8.11487	8.12446	8.13384	8.14303	13
48	8.09519	8.10522	8.11503	8.12462	8.13400	8.14318	12
49	8.09536	8.10539	8.11519	8.12478	8.13415	8.14333	11
50	8.09553	8.10555	8.11535	8.12493	8.13431	8.14348	10
51	8.09570	8.10572	8.11551	8.12509	8.13446	8.14364	9
52	8.09587	8.10588	8.11567	8.12525	8.13462	8.14379	8
53	8.09604	8.10605	8.11584	8.12541	8.13477	8.14394	7
54	8.09621	8.10621	8.11600	8.12556	8.13493	8.14409	6
55	8.09637	8.10638	8.11616	8.12572	8.13508	8.14424	5
56	8.09654	8.10654	8.11632	8.12588	8.13523	8.14439	4
57	8.09671	8.10671	8.11648	8.12604	8.13539	8.14454	3
58	8.09688	8.10687	8.11664	8.12620	8.13554	8.14469	2
59	8.09705	8.10704	8.11680	8.12635	8.13570	8.14484	1
60	8.09722	8.10720	8.11696	8.12651	8.13585	8.14500	0
″	17′	16′	15′	14′	13′	12′	″

″	48′	49′	50′	51′	52′	53′	″
0	8.14495	8.15391	8.16268	8.17128	8.17971	8.18798	60
1	8.14510	8.15406	8.16283	8.17142	8.17985	8.18812	59
2	8.14525	8.15420	8.16297	8.17156	8.17999	8.18826	58
3	8.14541	8.15435	8.16311	8.17171	8.18013	8.18839	57
4	8.14556	8.15450	8.16326	8.17185	8.18027	8.18853	56
5	8.14571	8.15465	8.16340	8.17199	8.18041	8.18867	55
6	8.14586	8.15479	8.16355	8.17213	8.18055	8.18880	54
7	8.14601	8.15494	8.16369	8.17227	8.18069	8.18894	53
8	8.14616	8.15509	8.16384	8.17241	8.18082	8.18908	52
9	8.14631	8.15523	8.16398	8.17256	8.18096	8.18921	51
10	8.14646	8.15538	8.16413	8.17270	8.18110	8.18935	50
11	8.14661	8.15553	8.16427	8.17284	8.18124	8.18948	49
12	8.14676	8.15568	8.16441	8.17298	8.18138	8.18962	48
13	8.14691	8.15582	8.16456	8.17312	8.18152	8.18976	47
14	8.14706	8.15597	8.16470	8.17326	8.18166	8.18989	46
15	8.14721	8.15612	8.16485	8.17340	8.18180	8.19003	45
16	8.14736	8.15626	8.16499	8.17355	8.18193	8.19016	44
17	8.14751	8.15641	8.16513	8.17369	8.18207	8.19030	43
18	8.14766	8.15656	8.16528	8.17383	8.18221	8.19044	42
19	8.14781	8.15670	8.16542	8.17397	8.18235	8.19057	41
20	8.14796	8.15685	8.16557	8.17411	8.18249	8.19071	40
21	8.14811	8.15700	8.16571	8.17425	8.18263	8.19084	39
22	8.14826	8.15714	8.16585	8.17439	8.18276	8.19098	38
23	8.14841	8.15729	8.16600	8.17453	8.18290	8.19111	37
24	8.14856	8.15744	8.16614	8.17467	8.18304	8.19125	36
25	8.14871	8.15758	8.16628	8.17481	8.18318	8.19139	35
26	8.14886	8.15773	8.16643	8.17495	8.18332	8.19152	34
27	8.14901	8.15788	8.16657	8.17510	8.18345	8.19166	33
28	8.14915	8.15802	8.16672	8.17524	8.18359	8.19179	32
29	8.14930	8.15817	8.16686	8.17538	8.18373	8.19193	31
30	8.14945	8.15832	8.16700	8.17552	8.18387	8.19206	30
″	11′	10′	9′	8′	7′	6′	″

"	48′	49′	50′	51′	52′	53′	"
0	8.14500	8.15396	8.16273	8.17133	8.17976	8.18804	60
1	8.14515	8.15410	8.16287	8.17147	8.17990	8.18817	59
2	8.14530	8.15425	8.16302	8.17161	8.18004	8.18831	58
3	8.14545	8.15439	8.16316	8.17175	8.18018	8.18845	57
4	8.14560	8.15454	8.16331	8.17190	8.18032	8.18858	56
5	8.14575	8.15469	8.16345	8.17204	8.18046	8.18872	55
6	8.14590	8.15484	8.16359	8.17218	8.18060	8.18886	54
7	8.14605	8.15498	8.16374	8.17232	8.18074	8.18899	53
8	8.14620	8.15513	8.16388	8.17246	8.18087	8.18913	52
9	8.14635	8.15528	8.16403	8.17260	8.18101	8.18926	51
10	8.14650	8.15543	8.16417	8.17275	8.18115	8.18940	50
11	8.14665	8.15557	8.16432	8.17289	8.18129	8.18954	49
12	8.14680	8.15572	8.16446	8.17303	8.18143	8.18967	48
13	8.14695	8.15587	8.16460	8.17317	8.18157	8.18981	47
14	8.14710	8.15602	8.16475	8.17331	8.18171	8.18994	46
15	8.14725	8.15616	8.16489	8.17345	8.18185	8.19008	45
16	8.14740	8.15631	8.16504	8.17359	8.18198	8.19022	44
17	8.14755	8.15646	8.16518	8.17373	8.18212	8.19035	43
18	8.14770	8.15660	8.16533	8.17388	8.18226	8.19049	42
19	8.14785	8.15675	8.16547	8.17402	8.18240	8.19062	41
20	8.14800	8.15690	8.16561	8.17416	8.18254	8.19076	40
21	8.14815	8.15704	8.16576	8.17430	8.18268	8.19090	39
22	8.14830	8.15719	8.16590	8.17444	8.18281	8.19103	38
23	8.14845	8.15734	8.16604	8.17458	8.18295	8.19117	37
24	8.14860	8.15748	8.16619	8.17472	8.18309	8.19130	36
25	8.14875	8.15763	8.16633	8.17486	8.18323	8.19144	35
26	8.14890	8.15778	8.16647	8.17500	8.18337	8.19157	34
27	8.14905	8.15792	8.16662	8.17514	8.18351	8.19171	33
28	8.14920	8.15807	8.16676	8.17528	8.18364	8.19184	32
29	8.14935	8.15822	8.16691	8.17543	8.18378	8.19198	31
30	8.14950	8.15836	8.16705	8.17557	8.18392	8.19211	30
"	11′	10′	9′	8′	7′	6′	"

"	48′	49′	50′	51′	52′	53′	"
30	8.14945	8.15832	8.16700	8.17552	8.18387	8.19206	30
31	8.14960	8.15846	8.16715	8.17566	8.18401	8.19220	29
32	8.14975	8.15861	8.16729	8.17580	8.18414	8.19233	28
33	8.14990	8.15875	8.16743	8.17594	8.18428	8.19247	27
34	8.15005	8.15890	8.16757	8.17608	8.18442	8.19260	26
35	8.15020	8.15905	8.16772	8.17622	8.18456	8.19274	25
36	8.15035	8.15919	8.16786	8.17636	8.18469	8.19287	24
37	8.15050	8.15934	8.16800	8.17650	8.18483	8.19301	23
38	8.15065	8.15948	8.16815	8.17664	8.18497	8.19314	22
39	8.15079	8.15963	8.16829	8.17678	8.18511	8.19328	21
40	8.15094	8.15978	8.16843	8.17692	8.18524	8.19341	20
41	8.15109	8.15992	8.16858	8.17706	8.18538	8.19355	19
42	8.15124	8.16007	8.16872	8.17720	8.18552	8.19368	18
43	8.15139	8.16021	8.16886	8.17734	8.18566	8.19382	17
44	8.15154	8.16036	8.16900	8.17748	8.18579	8.19395	16
45	8.15169	8.16050	8.16915	8.17762	8.18593	8.19409	15
46	8.15183	8.16065	8.16929	8.17776	8.18607	8.19422	14
47	8.15198	8.16079	8.16943	8.17790	8.18621	8.19436	13
48	8.15213	8.16094	8.16957	8.17804	8.18634	8.19449	12
49	8.15228	8.16109	8.16972	8.17818	8.18648	8.19463	11
50	8.15243	8.16123	8.16986	8.17832	8.18662	8.19476	10
51	8.15258	8.16138	8.17000	8.17846	8.18675	8.19489	9
52	8.15272	8.16152	8.17014	8.17860	8.18689	8.19503	8
53	8.15287	8.16167	8.17029	8.17874	8.18703	8.19516	7
54	8.15302	8.16181	8.17043	8.17888	8.18716	8.19530	6
55	8.15317	8.16196	8.17057	8.17902	8.18730	8.19543	5
56	8.15332	8.16210	8.17071	8.17916	8.18744	8.19557	4
57	8.15346	8.16225	8.17085	8.17930	8.18757	8.19570	3
58	8.15361	8.16239	8.17100	8.17943	8.18771	8.19583	2
59	8.15376	8.16254	8.17114	8.17957	8.18785	8.19597	1
60	8.15391	8.16268	8.17128	8.17971	8.18798	8.19610	0
"	11′	10′	9′	8′	7′	6′	"

″	48′	49′	50′	51′	52′	53′	″
30	8.14950	8.15836	8.16705	8.17557	8.18392	8.19211	30
31	8.14965	8.15851	8.16719	8.17571	8.18406	8.19225	29
32	8.14980	8.15865	8.16734	8.17585	8.18419	8.19239	28
33	8.14994	8.15880	8.16748	8.17599	8.18433	8.19252	27
34	8.15009	8.15895	8.16762	8.17613	8.18447	8.19266	26
35	8.15024	8.15909	8.16776	8.17627	8.18461	8.19279	25
36	8.15039	8.15924	8.16791	8.17641	8.18475	8.19293	24
37	8.15054	8.15938	8.16805	8.17655	8.18488	8.19306	23
38	8.15069	8.15953	8.16819	8.17669	8.18502	8.19320	22
39	8.15084	8.15968	8.16834	8.17683	8.18516	8.19333	21
40	8.15099	8.15982	8.16848	8.17697	8.18530	8.19347	20
41	8.15114	8.15997	8.16862	8.17711	8.18543	8.19360	19
42	8.15128	8.16011	8.16877	8.17725	8.18557	8.19374	18
43	8.15143	8.16026	8.16891	8.17739	8.18571	8.19387	17
44	8.15158	8.16040	8.16905	8.17753	8.18585	8.19401	16
45	8.15173	8.16055	8.16919	8.17767	8.18598	8.19414	15
46	8.15188	8.16070	8.16934	8.17781	8.18612	8.19427	14
47	8.15203	8.16084	8.16948	8.17795	8.18626	8.19441	13
48	8.15218	8.16099	8.16962	8.17809	8.18639	8.19454	12
49	8.15232	8.16113	8.16976	8.17823	8.18653	8.19468	11
50	8.15247	8.16128	8.16991	8.17837	8.18667	8.19481	10
51	8.15262	8.16142	8.17005	8.17851	8.18681	8.19495	9
52	8.15277	8.16157	8.17019	8.17865	8.18694	8.19508	8
53	8.15292	8.16171	8.17033	8.17879	8.18708	8.19522	7
54	8.15306	8.16186	8.17048	8.17893	8.18722	8.19535	6
55	8.15321	8.16200	8.17062	8.17907	8.18735	8.19548	5
56	8.15336	8.16215	8.17076	8.17921	8.18749	8.19562	4
57	8.15351	8.16229	8.17090	8.17934	8.18763	8.19575	3
58	8.15366	8.16244	8.17104	8.17948	8.18776	8.19589	2
59	8.15380	8.16258	8.17119	8.17962	8.18790	8.19602	1
60	8.15395	8.16273	8.17133	8.17976	8.18804	8.19616	0
″	11′	10′	9′	8′	7′	6′	″

″	54′	55′	56′	57′	58′	59′	″
0	8.19610	8.20407	8.21189	8.21958	8.22718	8.23456	60
1	8.19624	8.20420	8.21202	8.21971	8.22726	8.23468	59
2	8.19637	8.20433	8.21215	8.21983	8.22738	8.23480	58
3	8.19650	8.20446	8.21228	8.21996	8.22751	8.23492	57
4	8.19664	8.20460	8.21241	8.22009	8.22763	8.23505	56
5	8.19677	8.20473	8.21254	8.22022	8.22776	8.23517	55
6	8.19691	8.20486	8.21267	8.22034	8.22788	8.23529	54
7	8.19704	8.20499	8.21280	8.22047	8.22801	8.23541	53
8	8.19717	8.20512	8.21293	8.22060	8.22813	8.23554	52
9	8.19731	8.20525	8.21306	8.22072	8.22826	8.23566	51
10	8.19744	8.20538	8.21319	8.22085	8.22838	8.23578	50
11	8.19757	8.20552	8.21331	8.22098	8.22850	8.23590	49
12	8.19771	8.20565	8.21344	8.22110	8.22863	8.23603	48
13	8.19784	8.20578	8.21357	8.22123	8.22875	8.23615	47
14	8.19797	8.20591	8.21370	8.22136	8.22888	8.23627	46
15	8.19811	8.20604	8.21383	8.22148	8.22900	8.23639	45
16	8.19824	8.20617	8.21396	8.22161	8.22913	8.23652	44
17	8.19837	8.20630	8.21409	8.22173	8.22925	8.23664	43
18	8.19851	8.20643	8.21422	8.22186	8.22937	8.23676	42
19	8.19864	8.20656	8.21434	8.22199	8.22950	8.23688	41
20	8.19877	8.20669	8.21447	8.22211	8.22962	8.23700	40
21	8.19891	8.20682	8.21460	8.22224	8.22975	8.23713	39
22	8.19904	8.20696	8.21473	8.22237	8.22987	8.23725	38
23	8.19917	8.20709	8.21486	8.22249	8.22999	8.23737	37
24	8.19931	8 20722	8.21499	8.22262	8.23012	8.23749	36
25	8.19944	8.20735	8.21511	8.22274	8.23024	8.23761	35
26	8.19957	8.20748	8.21524	8.22287	8.23037	8.23773	34
27	8.19971	8.20761	8.21537	8.22300	8.23049	8.23786	33
28	8.19984	8.20774	8.21550	8.22312	8.23061	8.23798	32
29	8.19997	8.20787	8.21563	8.22325	8.23074	8.23810	31
30	8.20010	8.20800	8.21576	8.22337	8.23086	8.23822	30
″	5′	4′	3′	2′	1′	0′	″

″	54′	55′	56′	57′	58′	59′	″
0	8.19616	8.20418	8.21195	8.21964	8.22720	8.23462	60
1	8.19629	8.20426	8.21208	8.21977	8.22732	8.23474	59
2	8.19642	8.20439	8.21221	8.21989	8.22744	8.23487	58
3	8.19656	8.20452	8.21234	8.22002	8.22757	8.23499	57
4	8.19669	8.20465	8.21247	8.22015	8.22769	8.23511	56
5	8.19683	8.20478	8.21260	8.22028	8.22782	8.23523	55
6	8.19696	8.20491	8.21273	8.22040	8.22794	8.23536	54
7	8.19709	8.20505	8.21286	8.22053	8.22807	8.23548	53
8	8.19723	8.20518	8.21299	8.22066	8.22819	8.23560	52
9	8.19736	8.20531	8.21311	8.22078	8.22832	8.23572	51
10	8.19749	8.20544	8.21324	8.22091	8.22844	8.23585	50
11	8.19763	8.20557	8.21337	8.22104	8.22857	8.23597	49
12	8.19776	8.20570	8.21350	8.22116	8.22869	8.23609	48
13	8.19789	8.20583	8.21363	8.22129	8.22881	8.23621	47
14	8.19803	8.20596	8.21376	8.22142	8.22894	8.23634	46
15	8.19816	8.20610	8.21389	8.22154	8.22906	8.23646	45
16	8.19830	8.20623	8.21402	8.22167	8.22919	8.23658	44
17	8.19843	8.20636	8.21414	8.22179	8.22931	8.23670	43
18	8.19856	8.20649	8.21427	8.22192	8.22944	8.23682	42
19	8.19870	8.20662	8.21440	8.22205	8.22956	8.23695	41
20	8.19883	8.20675	8.21453	8.22217	8.22968	8.23707	40
21	8.19896	8.20688	8.21466	8.22230	8.22981	8.23719	39
22	8.19910	8.20701	8.21479	8.22243	8.22993	8.23731	38
23	8.19923	8.20714	8.21492	8.22255	8.23006	8.23743	37
24	8.19936	8.20727	8.21504	8.22268	8.23018	8.23756	36
25	8.19949	8.20740	8.21517	8.22280	8.23030	8.23768	35
26	8.19963	8.20753	8.21530	8.22293	8.23043	8.23780	34
27	8.19976	8.20767	8.21543	8.22306	8.23055	8.23792	33
28	8.19989	8.20780	8.21556	8.22318	8.23068	8.23804	32
29	8.20003	8.20793	8.21569	8.22331	8.23080	8.23816	31
30	8.20016	8.20806	8.21581	8.22343	8.23092	8.23829	30
″	5′	4′	3′	2′	1′	0′	″

″	54′	55′	56′	57′	58′	59′	″
30	8.20010	8.20800	8.21576	8.22337	8.23086	8.23822	30
31	8.20024	8.20813	8.21588	8.22350	8.23098	8.23834	29
32	8.20037	8.20826	8.21601	8.22363	8.23111	8.23846	28
33	8.20050	8.20839	8.21614	8.22375	8.23123	8.23859	27
34	8.20064	8.20852	8.21627	8.22388	8.23136	8.23871	26
35	8.20077	8.20865	8.21640	8.22400	8.23148	8.23883	25
36	8.20090	8.20878	8.21652	8.22413	8.23160	8.23895	24
37	8.20103	8.20891	8.21665	8.22425	8.23173	8.23907	23
38	8.20117	8.20904	8.21678	8.22438	8.23185	8.23919	22
39	8.20130	8.20917	8.21691	8.22451	8.23197	8.23931	21
40	8.20143	8.20930	8.21703	8.22463	8.23210	8.23944	20
41	8.20156	8.20943	8.21716	8.22476	8.23222	8.23956	19
42	8.20170	8.20956	8.21729	8.22488	8.23234	8.23968	18
43	8.20183	8.20969	8.21742	8.22501	8.23247	8.23980	17
44	8.20196	8.20982	8.21754	8.22513	8.23259	8.23992	16
45	8.20209	8.20995	8.21767	8.22526	8.23271	8.24004	15
46	8.20222	8.21008	8.21780	8.22538	8.23284	8.24016	14
47	8.20236	8.21021	8.21793	8.22551	8.23296	8.24028	13
48	8.20249	8.21034	8.21805	8.22563	8.23308	8.24041	12
49	8.20262	8.21047	8.21818	8.22576	8.23321	8.24053	11
50	8.20275	8.21060	8.21831	8.22588	8.23333	8.24065	10
51	8.20288	8.21073	8.21844	8.22601	8.23345	8.24077	9
52	8.20302	8.21086	8.21856	8.22613	8.23357	8.24089	8
53	8.20315	8.21099	8.21869	8.22626	8.23370	8.24101	7
54	8.20328	8.21112	8.21882	8.22638	8.23382	8.24113	6
55	8.20341	8.21125	8.21895	8.22651	8.23394	8.24125	5
56	8.20354	8.21138	8.21907	8.22663	8.23407	8.24137	4
57	8.20368	8.21151	8.21920	8.22676	8.23419	8.24149	3
58	8.20381	8.21164	8.21933	8.22688	8.23431	8.24161	2
59	8.20394	8.21177	8.21945	8.22701	8.23443	8.24173	1
60	8.20407	8.21189	8.21958	8.22713	8.23456	8.24186	0
″	5′	4′	3′	2′	1′	0′	″

″	54′	55′	56′	57′	58′	59′	″
30	8.20016	8.20806	8.21581	8.22343	8.23092	8.23829	30
31	8.20029	8.20819	8.21594	8.22356	8.23105	8.23841	29
32	8.20042	8.20832	8.21607	8.22369	8.23117	8.23853	28
33	8.20056	8.20845	8.21620	8.22381	8.23130	8.23865	27
34	8.20069	8.20858	8.21633	8.22394	8.23142	8.23877	26
35	8.20082	8.20871	8.21645	8.22406	8.23154	8.23889	25
36	8.20096	8.20884	8.21658	8.22419	8.23167	8.23902	24
37	8.20109	8.20897	8.21671	8.22431	8.23179	8.23914	23
38	8.20122	8.20910	8.21684	8.22444	8.23191	8.23926	22
39	8.20135	8.20923	8.21697	8.22457	8.23204	8.23938	21
40	8.20149	8.20936	8.21709	8.22469	8.23216	8.23950	20
41	8.20162	8.20949	8.21722	8.22482	8.23228	8.23962	19
42	8.20175	8.20962	8.21735	8.22494	8.23241	8.23974	18
43	8.20188	8.20975	8.21748	8.22507	8.23253	8.23987	17
44	8.20201	8.20988	8.21760	8.22519	8.23265	8.23999	16
45	8.20215	8.21001	8.21773	8.22532	8.23278	8.24011	15
46	8.20228	8.21014	8.21786	8.22544	8.23290	8.24023	14
47	8.20241	8.21027	8.21799	8.22557	8.23302	8.24035	13
48	8.20254	8.21040	8.21811	8.22569	8.23315	8.24047	12
49	8.20268	8.21053	8.21824	8.22582	8.23327	8.24059	11
50	8.20281	8.21066	8.21837	8.22595	8.23339	8.24071	10
51	8.20294	8.21079	8.21850	8.22607	8.23352	8.24083	9
52	8.20307	8.21092	8.21862	8.22620	8.23364	8.24096	8
53	8.20320	8.21105	8.21875	8.22632	8.23376	8.24108	7
54	8.20334	8.21118	8.21888	8.22645	8.23388	8.24120	6
55	8.20347	8.21131	8.21901	8.22657	8.23401	8.24132	5
56	8.20360	8.21144	8.21913	8.22670	8.23413	8.24144	4
57	8.20373	8.21156	8.21926	8.22682	8.23425	8.24156	3
58	8.20386	8.21169	8.21939	8.22695	8.23438	8.24168	2
59	8.20399	8.21182	8.21951	8.22707	8.23450	8.24180	1
60	8.20413	8.21195	8.21964	8.22720	8.23462	8.24192	0
″	5′	4′	3′	2′	1′	0′	″

″	0′	1′	2′	3′	4′	5′	″
0	8.24186	8.24903	8.25609	8.26304	8.26988	8.27661	60
1	8.24198	8.24915	8.25621	8.26316	8.26999	8.27672	59
2	8.24210	8.24927	8.25633	8.26327	8.27011	8.27684	58
3	8.24222	8.24939	8.25644	8.26339	8.27022	8.27695	57
4	8.24234	8.24951	8.25656	8.26350	8.27033	8.27706	56
5	8.24246	8.24963	8.25668	8.26362	8.27045	8.27717	55
6	8.24258	8.24974	8.25679	8.26373	8.27056	8.27728	54
7	8.24270	8.24986	8.25691	8.26385	8.27067	8.27739	53
8	8.24282	8.24998	8.25703	8.26396	8.27078	8.27750	52
9	8.24294	8.25010	8.25714	8.26408	8.27090	8.27761	51
10	8.24306	8.25022	8.25726	8.26419	8.27101	8.27773	50
11	8.24318	8.25034	8.25738	8.26430	8.27112	8.27784	49
12	8.24330	8.25045	8.25749	8.26442	8.27124	8.27795	48
13	8.24342	8.25057	8.25761	8.26453	8.27135	8.27806	47
14	8.24354	8.25069	8.25773	8.26465	8.27146	8.27817	46
15	8.24366	8.25081	8.25784	8.26476	8.27157	8.27828	45
16	8.24378	8.25093	8.25796	8.26488	8.27169	8.27839	44
17	8.24390	8.25105	8.25807	8.26499	8.27180	8.27850	43
18	8.24402	8.25116	8.25819	8.26511	8.27191	8.27861	42
19	8.24414	8.25128	8.25831	8.26522	8.27202	8.27872	41
20	8.24426	8.25140	8.25842	8.26533	8.27214	8.27883	40
21	8.24438	8.25152	8.25854	8.26545	8.27225	8.27895	39
22	8.24450	8.25164	8.25865	8.26556	8.27236	8.27906	38
23	8.24462	8.25175	8.25877	8.26568	8.27247	8.27917	37
24	8.24474	8.25187	8.25889	8.26579	8.27259	8.27928	36
25	8.24486	8.25199	8.25900	8.26590	8.27270	8.27939	35
26	8.24498	8.25211	8.25912	8.26602	8.27281	8.27950	34
27	8.24510	8.25222	8.25923	8.26613	8.27292	8.27961	33
28	8.24522	8.25234	8.25935	8.26625	8.27304	8.27972	32
29	8.24534	8.25246	8.25947	8.26636	8.27315	8.27983	31
30	8.24546	8.25258	8.25958	8.26648	8.27326	8.27994	30
″	59′	58′	57′	56′	55′	54′	″

″	0′	1′	2′	3′	4′	5′	″
0	8.24192	8.24910	8.25616	8.26312	8.26996	8.27669	60
1	8.24204	8.24922	8.25628	8.26323	8.27007	8.27680	59
2	8.24216	8.24934	8.25640	8.26335	8.27018	8.27691	58
3	8.24228	8.24946	8.25652	8.26346	8.27030	8.27703	57
4	8.24240	8.24958	8.25663	8.26357	8.27041	8.27714	56
5	8.24252	8.24969	8.25675	8.26369	8.27052	8.27725	55
6	8.24264	8.24981	8.25686	8.26380	8.27063	8.27736	54
7	8.24277	8.24993	8.25698	8.26392	8.27075	8.27747	53
8	8.24289	8.25005	8.25710	8.26403	8.27086	8.27758	52
9	8.24301	8.25017	8.25721	8.26415	8.27097	8.27769	51
10	8.24313	8.25029	8.25733	8.26426	8.27109	8.27780	50
11	8.24325	8.25041	8.25745	8.26438	8.27120	8.27791	49
12	8.24337	8.25052	8.25756	8.26449	8.27131	8.27803	48
13	8.24349	8.25064	8.25768	8.26461	8.27142	8.27814	47
14	8.24361	8.25076	8.25780	8.26472	8.27154	8.27825	46
15	8.24373	8.25088	8.25791	8.26484	8.27165	8.27836	45
16	8.24385	8.25100	8.25803	8.26495	8.27176	8.27847	44
17	8.24397	8.25111	8.25815	8.26506	8.27188	8.27858	43
18	8.24409	8.25123	8.25826	8.26518	8.27199	8.27869	42
19	8.24421	8.25135	8.25838	8.26529	8.27210	8.27880	41
20	8.24433	8.25147	8.25849	8.26541	8.27221	8.27891	40
21	8.24445	8.25159	8.25861	8.26552	8.27233	8.27902	39
22	8.24457	8.25170	8.25873	8.26564	8.27244	8.27913	38
23	8.24469	8.25182	8.25884	8.26575	8.27255	8.27925	37
24	8.24481	8.25194	8.25896	8.26586	8.27266	8.27936	36
25	8.24493	8.25206	8.25907	8.26598	8.27278	8.27947	35
26	8.24505	8.25218	8.25919	8.26609	8.27289	8.27958	34
27	8.24517	8.25229	8.25931	8.26621	8.27300	8.27969	33
28	8.24529	8.25241	8.25942	8.26632	8.27311	8.27980	32
29	8.24541	8.25253	8.25954	8.26644	8.27322	8.27991	31
30	8.24553	8.25265	8.25965	8.26655	8.27334	8.28002	30
″	59′	58′	57′	56′	55′	54′	″

″	0′	1′	2′	3′	4′	5′	″
30	8.24546	8.25258	8.25958	8.26648	8.27326	8.27994	30
31	8.24558	8.25270	8.25970	8.26659	8.27337	8.28005	29
32	8.24570	8.25281	8.25981	8.26670	8.27348	8.28016	28
33	8.24582	8.25293	8.25993	8.26682	8.27360	8.28027	27
34	8.24594	8.25305	8.26005	8.26693	8.27371	8.28038	26
35	8.24606	8.25317	8.26016	8.26704	8.27382	8.28049	25
36	8.24618	8.25328	8.26028	8.26716	8.27393	8.28060	24
37	8.24630	8.25340	8.26039	8.26727	8.27405	8.28071	23
38	8.24642	8.25352	8.26051	8.26739	8.27416	8.28082	22
39	8.24653	8.25364	8.26062	8.26750	8.27427	8.28093	21
40	8.24665	8.25375	8.26074	8.26761	8.27438	8.28104	20
41	8.24677	8.25387	8.26085	8.26773	8.27449	8.28115	19
42	8.24689	8.25399	8.26097	8.26784	8.27460	8.28127	18
43	8.24701	8.25411	8.26108	8.26795	8.27472	8.28138	17
44	8.24713	8.25422	8.26120	8.26807	8.27483	8.28149	16
45	8.24725	8.25434	8.26132	8.26818	8.27494	8.28160	15
46	8.24737	8.25446	8.26143	8.26829	8.27505	8.28171	14
47	8.24749	8.25457	8.26155	8.26841	8.27516	8.28182	13
48	8.24761	8.25469	8.26166	8.26852	8.27528	8.28193	12
49	8.24773	8.25481	8.26178	8.26864	8.27539	8.28204	11
50	8.24785	8.25493	8.26189	8.26875	8.27550	8.28215	10
51	8.24796	8.25504	8.26201	8.26886	8.27561	8.28226	9
52	8.24808	8.25516	8.26212	8.26898	8.27572	8.28237	8
53	8.24820	8.25528	8.26224	8.26909	8.27583	8.28248	7
54	8.24832	8.25539	8.26235	8.26920	8.27595	8.28258	6
55	8.24844	8.25551	8.26247	8.26932	8.27606	8.28269	5
56	8.24856	8.25563	8.26258	8.26943	8.27617	8.28280	4
57	8.24868	8.25574	8.26270	8.26954	8.27628	8.28291	3
58	8.24880	8.25586	8.26281	8.26965	8.27639	8.28302	2
59	8.24891	8.25598	8.26293	8.26977	8.27650	8.28313	1
60	8.24903	8.25609	8.26304	8.26988	8.27661	8.28324	0
″	59′	58′	57′	56′	55′	54′	″

″	0′	1′	2′	3′	4′	5′	″
30	8.24553	8.25265	8.25965	8.26655	8.27334	8.28002	30
31	8.24565	8.25277	8.25977	8.26666	8.27345	8.28013	29
32	8.24577	8.25288	8.25989	8.26678	8.27356	8.28024	28
33	8.24589	8.25300	8.26000	8.26689	8.27367	8.28035	27
34	8.24600	8.25312	8.26012	8.26701	8.27379	8.28046	26
35	8.24612	8.25324	8.26023	8.26712	8.27390	8.28057	25
36	8.24624	8.25335	8.26035	8.26723	8.27401	8.28068	24
37	8.24636	8.25347	8.26046	8.26735	8.27412	8.28079	23
38	8.24648	8.25359	8.26058	8.26746	8.27423	8.28090	22
39	8.24660	8.25371	8.26070	8.26757	8.27435	8.28101	21
40	8.24672	8.25382	8.26081	8.26769	8.27446	8.28112	20
41	8.24684	8.25394	8.26093	8.26780	8.27457	8.28123	19
42	8.24696	8.25406	8.26104	8.26792	8.27468	8.28134	18
43	8.24708	8.25418	8.26116	8.26803	8.27479	8.28145	17
44	8.24720	8.25429	8.26127	8.26814	8.27491	8.28156	16
45	8.24732	8.25441	8.26139	8.26826	8.27502	8.28167	15
46	8.24744	8.25453	8.26150	8.26837	8.27513	8.28178	14
47	8.24756	8.25464	8.26162	8.26848	8.27524	8.28190	13
48	8.24767	8.25476	8.26173	8.26860	8.27535	8.28201	12
49	8.24779	8.25488	8.26185	8.26871	8.27546	8.28212	11
50	8.24791	8.25500	8.26196	8.26882	8.27558	8.28223	10
51	8.24803	8.25511	8.26208	8.26894	8.27569	8.28234	9
52	8.24815	8.25523	8.26219	8.26905	8.27580	8.28244	8
53	8.24827	8.25535	8.26231	8.26916	8.27591	8.28255	7
54	8.24839	8.25546	8.26243	8.26928	8.27602	8.28266	6
55	8.24851	8.25558	8.26254	8.26939	8.27613	8.28277	5
56	8.24863	8.25570	8.26266	8.26950	8.27625	8.28288	4
57	8.24875	8.25581	8.26277	8.26962	8.27636	8.28299	3
58	8.24886	8.25593	8.26289	8.26973	8.27647	8.28310	2
59	8.24898	8.25605	8.26300	8.26984	8.27658	8.28321	1
60	8.24910	8.25616	8.26312	8.26996	8.27669	8.28332	0
″	59′	58′	57′	56′	55′	54′	″

″	6′	7′	8′	9′	10′	11′	″
0	8.28324	8.28977	8.29621	8.30255	8.30879	8.31495	60
1	8.28335	8.28988	8.29631	8.30265	8.30890	8.31506	59
2	8.28346	8.28999	8.29642	8.30276	8.30900	8.31516	58
3	8.28357	8.29010	8.29653	8.30286	8.30910	8.31526	57
4	8.28368	8.29021	8.29663	8.30297	8.30921	8.31536	56
5	8.28379	8.29031	8.29674	8.30307	8.30931	8.31546	55
6	8.28390	8.29042	8.29684	8.30317	8.30941	8.31556	54
7	8.28401	8.29053	8.29695	8.30328	8.30952	8.31567	53
8	8.28412	8.29064	8.29706	8.30338	8.30962	8.31577	52
9	8.28423	8.29074	8.29716	8.30349	8.30972	8.31587	51
10	8.28434	8.29085	8.29727	8.30359	8.30983	8.31597	50
11	8.28445	8.29096	8.29738	8.30370	8.30993	8.31607	49
12	8.28456	8.29107	8.29748	8.30380	8.31003	8.31618	48
13	8.28467	8.29118	8.29759	8.30391	8.31014	8.31628	47
14	8.28478	8.29128	8.29769	8.30401	8.31024	8.31638	46
15	8.28489	8.29139	8.29780	8.30412	8.31034	8.31648	45
16	8.28499	8.29150	8.29791	8.30422	8.31045	8.31658	44
17	8.28510	8.29161	8.29801	8.30433	8.31055	8.31668	43
18	8.28521	8.29171	8.29812	8.30443	8.31065	8.31678	42
19	8.28532	8.29182	8.29822	8.30453	8.31075	8.31689	41
20	8.28543	8.29193	8.29833	8.30464	8.31086	8.31699	40
21	8.28554	8.29204	8.29844	8.30474	8.31096	8.31709	39
22	8.28565	8.29214	8.29854	8.30485	8.31106	8.31719	38
23	8.28576	8.29225	8.29865	8.30495	8.31117	8.31729	37
24	8.28587	8.29236	8.29875	8.30506	8.31127	8.31739	36
25	8.28598	8.29247	8.29886	8.30516	8.31137	8.31749	35
26	8.28609	8.29257	8.29897	8.30526	8.31147	8.31760	34
27	8.28619	8.29268	8.29907	8.30537	8.31158	8.31770	33
28	8.28630	8.29279	8.29918	8.30547	8.31168	8.31780	32
29	8.28641	8.29289	8.29928	8.30558	8.31178	8.31790	31
30	8.28652	8.29300	8.29939	8.30568	8.31188	8.31800	30
″	53′	52′	51′	50′	49′	48′	″

″	6′	7′	8′	9′	10′	11′	″
0	8.28332	8.28986	8.29629	8.30263	8.30888	8.31505	60
1	8.28343	8.28996	8.29640	8.30274	8.30899	8.31515	59
2	8.28354	8.29007	8.29650	8.30284	8.30909	8.31525	58
3	8.28365	8.29018	8.29661	8.30295	8.30919	8.31535	57
4	8.28376	8.29029	8.29672	8.30305	8.30930	8.31545	56
5	8.28387	8.29040	8.29682	8.30316	8.30940	8.31556	55
6	8.28398	8.29050	8.29693	8.30326	8.30950	8.31566	54
7	8.28409	8.29061	8.29704	8.30337	8.30961	8.31576	53
8	8.28420	8.29072	8.29714	8.30347	8.30971	8.31586	52
9	8.28431	8.29083	8.29725	8.30358	8.30981	8.31596	51
10	8.28442	8.29094	8.29736	8.30368	8.30992	8.31606	50
11	8.28453	8.29104	8.29746	8.30379	8.31002	8.31617	49
12	8.28464	8.29115	8.29757	8.30389	8.31012	8.31627	48
13	8.28475	8.29126	8.29767	8.30400	8.31023	8.31637	47
14	8.28486	8.29137	8.29778	8.30410	8.31033	8.31647	46
15	8.28497	8.29147	8.29789	8.30420	8.31043	8.31657	45
16	8.28508	8.29158	8.29799	8.30431	8.31054	8.31667	44
17	8.28518	8.29169	8.29810	8.30441	8.31064	8.31678	43
18	8.28529	8.29180	8.29820	8.30452	8.31074	8.31688	42
19	8.28540	8.29190	8.29831	8.30462	8.31084	8.31698	41
20	8.28551	8.29201	8.29842	8.30473	8.31095	8.31708	40
21	8.28562	8.29212	8.29852	8.30483	8.31105	8.31718	39
22	8.28573	8.29223	8.29863	8.30494	8.31115	8.31728	38
23	8.28584	8.29233	8.29873	8.30504	8.31126	8.31739	37
24	8.28595	8.29244	8.29884	8.30514	8.31136	8.31749	36
25	8.28606	8.29255	8.29895	8.30525	8.31146	8.31759	35
26	8.28617	8.29266	8.29905	8.30535	8.31157	8.31769	34
27	8.28628	8.29276	8.29916	8.30546	8.31167	8.31779	33
28	8.28638	8.29287	8.29926	8.30556	8.31177	8.31789	32
29	8.28649	8.29298	8.29937	8.30567	8.31187	8.31799	31
30	8.28660	8.29309	8.29947	8.30577	8.31198	8.31809	30
″	53′	52′	51′	50′	49′	48′	″

″	6′	7′	8′	9′	10′	11′	″
30	8.28652	8.29300	8.29939	8.30568	8.31188	8.31800	30
31	8.28663	8.29311	8.29949	8.30579	8.31199	8.31810	29
32	8.28674	8.29322	8.29960	8.30589	8.31209	8.31820	28
33	8.28685	8.29332	8.29970	8.30599	8.31219	8.31830	27
34	8.28696	8.29343	8.29981	8.30610	8.31230	8.31841	26
35	8.28706	8.29354	8.29992	8.30620	8.31240	8.31851	25
36	8.28717	8.29364	8.30002	8.30631	8.31250	8.31861	24
37	8.28728	8.29375	8.30013	8.30641	8.31260	8.31871	23
38	8.28739	8.29386	8.30023	8.30651	8.31271	8.31881	22
39	8.28750	8.29397	8.30034	8.30662	8.31281	8.31891	21
40	8.28761	8.29407	8.30044	8.30672	8.31291	8.31901	20
41	8.28772	8.29418	8.30055	8.30683	8.31301	8.31911	19
42	8.28782	8.29429	8.30065	8.30693	8.31311	8.31921	18
43	8.28793	8.29439	8.30076	8.30703	8.31322	8.31931	17
44	8.28804	8.29450	8.30086	8.30714	8.31332	8.31942	16
45	8.28815	8.29461	8.30097	8.30724	8.31342	8.31952	15
46	8.28826	8.29471	8.30108	8.30734	8.31352	8.31962	14
47	8.28837	8.29482	8.30118	8.30745	8.31363	8.31972	13
48	8.28848	8.29493	8.30129	8.30755	8.31373	8.31982	12
49	8.28858	8.29503	8.30139	8.30766	8.31383	8.31992	11
50	8.28869	8.29514	8.30150	8.30776	8.31393	8.32002	10
51	8.28880	8.29525	8.30160	8.30786	8.31404	8.32012	9
52	8.28891	8.29535	8.30171	8.30797	8.31414	8.32022	8
53	8.28902	8.29546	8.30181	8.30807	8.31424	8.32032	7
54	8.28912	8.29557	8.30192	8.30817	8.31434	8.32042	6
55	8.28923	8.29567	8.30202	8.30828	8.31444	8.32052	5
56	8.28934	8.29578	8.30213	8.30838	8.31455	8.32062	4
57	8.28945	8.29589	8.30223	8.30848	8.31465	8.32073	3
58	8.28956	8.29599	8.30234	8.30859	8.31475	8.32083	2
59	8.28967	8.29610	8.30244	8.30869	8.31485	8.32093	1
60	8.28977	8.29621	8.30255	8.30879	8.31495	8.32103	0
″	53′	52′	51′	50′	49′	48′	″

″	6′	7′	8′	9′	10′	11′	″
30	8.28660	8.29309	8.29947	8.30577	8.31198	8.31809	30
31	8.28671	8.29319	8.29958	8.30587	8.31208	8.31820	29
32	8.28682	8.29330	8.29969	8.30598	8.31218	8.31830	28
33	8.28693	8.29341	8.29979	8.30608	8.31228	8.31840	27
34	8.28704	8.29351	8.29990	8.30619	8.31239	8.31850	26
35	8.28715	8.29362	8.30000	8.30629	8.31249	8.31860	25
36	8.28725	8.29373	8.30011	8.30639	8.31259	8.31870	24
37	8.28736	8.29384	8.30021	8.30650	8.31269	8.31880	23
38	8.28747	8.29394	8.30032	8.30660	8.31280	8.31890	22
39	8.28758	8.29405	8.30042	8.30671	8.31290	8.31901	21
40	8.28769	8.29416	8.30053	8.30681	8.31300	8.31911	20
41	8.28780	8.29426	8.30064	8.30691	8.31310	8.31921	19
42	8.28791	8.29437	8.30074	8.30702	8.31321	8.31931	18
43	8.28801	8.29448	8.30085	8.30712	8.31331	8.31941	17
44	8.28812	8.29458	8.30095	8.30723	8.31341	8.31951	16
45	8.28823	8.29469	8.30106	8.30733	8.31351	8.31961	15
46	8.28834	8.29480	8.30116	8.30743	8.31362	8.31971	14
47	8.28845	8.29491	8.30127	8.30754	8.31372	8.31981	13
48	8.28856	8.29501	8.30137	8.30764	8.31382	8.31991	12
49	8.28867	8.29512	8.30148	8.30774	8.31392	8.32001	11
50	3.28877	8.29523	8.30158	8.30785	8.31403	8.32012	10
51	8.28888	8.29533	8.30169	8.30795	8.31413	8.32022	9
52	8.28899	8.29544	8.30179	8.30806	8.31423	8.32032	8
53	8.28910	8.29555	8.30190	8.30816	8.31433	8.32042	7
54	8.28921	8.29565	8.30200	8.30826	8.31443	8.32052	6
55	8.28932	8.29576	8.30211	8.30837	8.31454	8.32062	5
56	8.28942	8.29587	8.30221	8.30847	8.31464	8.32072	4
57	8.28953	8.29597	8.30232	8.30857	8.31474	8.32082	3
58	8.28964	8.29608	8.30242	8.30868	8.31484	8.32092	2
59	8.28975	8.29619	8.30253	8.30878	8.31494	8.32102	1
60	8.28986	8.29629	8.30263	8.30888	8.31505	8.32112	0
″	53′	52′	51′	50′	49′	48′	″

″	12′	13′	14′	15′	16′	17′	″
0	8.32103	8.32702	8.33292	8.33875	8.34450	8.35018	60
1	8.32113	8.32712	8.33302	8.33885	8.34460	8.35027	59
2	8.32123	8.32721	8.33312	8.33895	8.34469	8.35037	58
3	8.32133	8.32731	8.33322	8.33904	8.34479	8.35046	57
4	8.32143	8.32741	8.33332	8.33914	8.34489	8.35056	56
5	8.32153	8.32751	8.33341	8.33924	8.34498	8.35065	55
6	8.32163	8.32761	8.33351	8.33933	8.34508	8.35074	54
7	8.32173	8.32771	8.33361	8.33943	8.34517	8.35084	53
8	8.32183	8.32781	8.33371	8.33952	8.34527	8.35093	52
9	8.32193	8.32791	8.33380	8.33962	8.34536	8.35103	51
10	8.32203	8.32801	8.33390	8.33972	8.34546	8.35112	50
11	8.32213	8.32811	8.33400	8.33981	8.34555	8.35121	49
12	8.32223	8.32820	8.33410	8.33991	8.34565	8.35131	48
13	8.32233	8.32830	8.33419	8.34001	8.34574	8.35140	47
14	8.32243	8.32840	8.33429	8.34010	8.34584	8.35149	46
15	8.32253	8.32850	8.33439	8.34020	8.34593	8.35159	45
16	8.32263	8.32860	8.33449	8.34029	8.34603	8.35168	44
17	8.32273	8.32870	8.33458	8.34039	8.34612	8.35178	43
18	8.32283	8.32880	8.33468	8.34049	8.34621	8.35187	42
19	8.32293	8.32890	8.33478	8.34058	8.34631	8.35196	41
20	8.32303	8.32899	8.33488	8.34068	8.34640	8.35206	40
21	8.32313	8.32909	8.33497	8.34077	8.34650	8.35215	39
22	8.32323	8.32919	8.33507	8.34087	8.34659	8.35224	38
23	8.32333	8.32929	8.33517	8.34097	8.34669	8.35234	37
24	8.32343	8.32939	8.33527	8.34106	8.34678	8.35243	36
25	8.32353	8.32949	8.33536	8.34116	8.34688	8.35252	35
26	8.32363	8.32959	8.33546	8.34125	8.34697	8.35262	34
27	8.32373	8.32968	8.33556	8.34135	8.34707	8.35271	33
28	8.32383	8.32978	8.33565	8.34145	8.34716	8.35280	32
29	8.32393	8.32988	8.33575	8.34154	8.34726	8.35290	31
30	8.32403	8.32998	8.33585	8.34164	8.34735	8.35299	30
″	47′	46′	45′	44′	43′	42′	″

″	12′	13′	14′	15′	16′	17′	″
0	8.32112	8.32711	8.33302	8.33886	8.34461	8.35029	60
1	8.32122	8.32721	8.33312	8.33895	8.34471	8.35038	59
2	8.32132	8.32731	8.33322	8.33905	8.34480	8.35048	58
3	8.32142	8.32741	8.33332	8.33915	8.34490	8.35057	57
4	8.32152	8.32751	8.33342	8.33924	8.34499	8.35067	56
5	8.32162	8.32761	8.33351	8.33934	8.34509	8.35076	55
6	8.32173	8.32771	8.33361	8.33944	8.34518	8.35085	54
7	8.32183	8.32781	8.33371	8.33953	8.34528	8.35095	53
8	8.32193	8.32791	8.33381	8.33963	8.34537	8.35104	52
9	8.32203	8.32801	8.33390	8.33972	8.34547	8.35113	51
10	8.32213	8.32810	8.33400	8.33982	8.34556	8.35123	50
11	8.32223	8.32820	8.33410	8.33992	8.34566	8.35132	49
12	8.32233	8.32830	8.33420	8.34001	8.34575	8.35142	48
13	8.32243	8.32840	8.33430	8.34011	8.34585	8.35151	47
14	8.32253	8.32850	8.33439	8.34021	8.34594	8.35160	46
15	8.32263	8.32860	8.33449	8.34030	8.34604	8.35170	45
16	8.32273	8.32870	8.33459	8.34040	8.34613	8.35179	44
17	8.32283	8.32880	8.33469	8.34049	8.34623	8.35189	43
18	8.32293	8.32890	8.33478	8.34059	8.34632	8.35198	42
19	8.32303	8.32899	8.33488	8.34069	8.34642	8.35207	41
20	8.32313	8.32909	8.33498	8.34078	8.34651	8.35217	40
21	8.32323	8.32919	8.33507	8.34088	8.34661	8.35226	39
22	8.32333	8.32929	8.33517	8.34098	8.34670	8.35235	38
23	8.32343	8.32939	8.33527	8.34107	8.34680	8.35245	37
24	8.32353	8.32949	8.33537	8.34117	8.34689	8.35254	36
25	8.32363	8.32959	8.33546	8.34126	8.34699	8.35263	35
26	8.32373	8.32969	8.33556	8.34136	8.34708	8.35273	34
27	8.32383	8.32978	8.33566	8.34146	8.34718	8.35282	33
28	8.32393	8.32988	8.33576	8.34155	8.34727	8.35291	32
29	8.32403	8.32998	8.33585	8.34165	8.34736	8.35301	31
30	8.32413	8.33008	8.33595	8.34174	8.34746	8.35310	30
″	47′	46′	45′	44′	43′	42′	″

″	12′	13′	14′	15′	16′	17′	″
30	8.32403	8.32998	8.33585	8.34164	8.34735	8.35299	30
31	8.32413	8.33008	8.33595	8.34173	8.34745	8.35308	29
32	8.32423	8.33018	8.33604	8.34183	8.34754	8.35318	28
33	8.32433	8.33028	8.33614	8.34193	8.34764	8.35327	27
34	8.32443	8.33037	8.33624	8.34202	8.34773	8.35336	26
35	8.32453	8.33047	8.33633	8.34212	8.34782	8.35346	25
36	8.32463	8.33057	8.33643	8.34221	8.34792	8.35355	24
37	8.32473	8.33067	8.33653	8.34231	8.34801	8.35364	23
38	8.32483	8.33077	8.33662	8.34240	8.34811	8.35374	22
39	8.32493	8.33087	8.33672	8.34250	8.34820	8.35383	21
40	8.32503	8.33096	8.33682	8.34260	8.34830	8.35392	20
41	8.32513	8.33106	8.33692	8.34269	8.34839	8.35402	19
42	8.32523	8.33116	8.33701	8.34279	8.34849	8.35411	18
43	8.32533	8.33126	8.33711	8.34288	8.34858	8.35420	17
44	8.32543	8.33136	8.33721	8.34298	8.34867	8.35430	16
45	8.32553	8.33145	8.33730	8.34307	8.34877	8.35439	15
46	8.32563	8.33155	8.33740	8.34317	8.34886	8.35448	14
47	8.32573	8.33165	8.33750	8.34326	8.34896	8.35458	13
48	8.32583	8.33175	8.33759	8.34336	8.34905	8.35467	12
49	8.32592	8.33185	8.33769	8.34346	8.34915	8.35476	11
50	8.32602	8.33195	8.33779	8.34355	8.34924	8.35485	10
51	8.32612	8.33204	8.33788	8.34365	8.34933	8.35495	9
52	8.32622	8.33214	8.33798	8.34374	8.34943	8.35504	8
53	8.32632	8.33224	8.33808	8.34384	8.34952	8.35513	7
54	8.32642	8.33234	8.33817	8.34393	8.34962	8.35523	6
55	8.32652	8.33244	8.33827	8.34403	8.34971	8.35532	5
56	8.32662	8.33253	8.33837	8.34412	8.34980	8.35541	4
57	8.32672	8.33263	8.33846	8.34422	8.34990	8.35551	3
58	8.32682	8.33273	8.33856	8.34431	8.34999	8.35560	2
59	8.32692	8.33283	8.33866	8.34441	8.35009	8.35569	1
60	8.32702	8.33292	8.33875	8.34450	8.35018	8.35578	0
″	47′	46′	45′	44′	43′	42′	″

″	12′	13′	14′	15′	16′	17′	″
30	8.32413	8.33008	8.33595	8.34174	8.34746	8.35310	30
31	8.32423	8.33018	8.33605	8.34184	8.34755	8.35319	29
32	8.32433	8.33028	8.33614	8.34193	8.34765	8.35329	28
33	8.32443	8.33038	8.33624	8.34203	8.34774	8.35338	27
34	8.32453	8.33047	8.33634	8.34213	8.34784	8.35347	26
35	8.32463	8.33057	8.33644	8.34222	8.34793	8.35357	25
36	8.32473	8.33067	8.33653	8.34232	8.34803	8.35366	24
37	8.32483	8.33077	8.33663	8.34241	8.34812	8.35375	23
38	8.32493	8.33087	8.33673	8.34251	8.34822	8.35385	22
39	8.32503	8.33097	8.33682	8.34261	8.34831	8.35394	21
40	8.32513	8.33106	8.33692	8.34270	8.34840	8.35403	20
41	8.32523	8.33116	8.33702	8.34280	8.34850	8.35413	19
42	8.32533	8.33126	8.33712	8.34289	8.34859	8.35422	18
43	8.32542	8.33136	8.33721	8.34299	8.34869	8.35431	17
44	8.32552	8.33146	8.33731	8.34308	8.34878	8.35441	16
45	8.32562	8.33155	8.33741	8.34318	8.34888	8.35450	15
46	8.32572	8.33165	8.33750	8.34327	8.34897	8.35459	14
47	8.32582	8.33175	8.33760	8.34337	8.34907	8.35469	13
48	8.32592	8.33185	8.33770	8.34347	8.34916	8.35478	12
49	8.32602	8.33195	8.33779	8.34356	8.34925	8.35487	11
50	8.32612	8.33205	8.33789	8.34366	8.34935	8.35497	10
51	8.32622	8.33214	8.33799	8.34375	8.34944	8.35506	9
52	8.32632	8.33224	8.33808	8.34385	8.34954	8.35515	8
53	8.32642	8.33234	8.33818	8.34394	8.34963	8.35524	7
54	8.32652	8.33244	8.33828	8.34404	8.34972	8.35534	6
55	8.32662	8.33254	8.33837	8.34413	8.34982	8.35543	5
56	8.32672	8.33263	8.33847	8.34423	8.34991	8.35552	4
57	8.32682	8.33273	8.33857	8.34432	8.35001	8.35562	3
58	8.32692	8.33283	8.33866	8.34442	8.35010	8.35571	2
59	8.32702	8.33293	8.33876	8.34452	8.35020	8.35580	1
60	8.32711	8.33302	8.33886	8.34461	8.35029	8.35590	0
″	47′	46′	45′	44′	43′	42′	″

″	18′	19′	20′	21′	22′	23′	″
0	8.35578	8.36131	8.36678	8.37217	8.37750	8.38276	60
1	8.35588	8.36141	8.36687	8.37226	8.37759	8.38285	59
2	8.35597	8.36150	8.36696	8.37235	8.37768	8.38294	58
3	8.35606	8.36159	8.36705	8.37244	8.37776	8.38302	57
4	8.35615	8.36168	8.36714	8.37253	8.37785	8.38311	56
5	8.35625	8.36177	8.36723	8.37262	8.37794	8.38320	55
6	8.35634	8.36186	8.36732	8.37271	8.37803	8.38328	54
7	8.35643	8.36196	8.36741	8.37280	8.37812	8.38337	53
8	8.35653	8.36205	8.36750	8.37289	8.37820	8.38346	52
9	8.35662	8.36214	8.36759	8.37297	8.37829	8.38355	51
10	8.35671	8.36223	8.36768	8.37306	8.37838	8.38363	50
11	8.35680	8.36232	8.36777	8.37315	8.37847	8.38372	49
12	8.35690	8.36241	8.36786	8.37324	8.37856	8.38381	48
13	8.35699	8.36250	8.36795	8.37333	8.37864	8.38389	47
14	8.35708	8.36260	8.36804	8.37342	8.37873	8.38398	46
15	8.35717	8.36269	8.36813	8.37351	8.37882	8.38407	45
16	8.35727	8.36278	8.36822	8.37360	8.37891	8.38415	44
17	8.35736	8.36287	8.36831	8.37369	8.37900	8.38424	43
18	8.35745	8.36296	8.36840	8.37378	8.37908	8.38433	42
19	8.35754	8.36305	8.36849	8.37387	8.37917	8.38442	41
20	8.35764	8.36314	8.36858	8.37396	8.37926	8.38450	40
21	8.35773	8.36323	8.36867	8.37404	8.37935	8.38459	39
22	8.35782	8.36333	8.36876	8.37413	8.37944	8.38468	38
23	8.35791	8.36342	8.36885	8.37422	8.37952	8.38476	37
24	8.35800	8.36351	8.36894	8.37431	8.37961	8.38485	36
25	8.35810	8.36360	8.36903	8.37440	8.37970	8.38494	35
26	8.35819	8.36369	8.36912	8.37449	8.37979	8.38502	34
27	8.35828	8.36378	8.36921	8.37458	8.37988	8.38511	33
28	8.35837	8.36387	8.36930	8.37467	8.37996	8.38520	32
29	8.35847	8.36396	8.36939	8.37475	8.38005	8.38528	31
30	8.35856	8.36405	8.36948	8.37484	8.38014	8.38537	30
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
0	8.35590	8.36143	8.36689	8.37229	8.37762	8.38289	60
1	8.35599	8.36152	8.36699	8.37238	8.37771	8.38298	59
2	8.35608	8.36161	8.36708	8.37247	8.37780	8.38306	58
3	8.35617	8.36170	8.36717	8.37256	8.37789	8.38315	57
4	8.35627	8.36180	8.36726	8.37265	8.37798	8.38324	56
5	8.35636	8.36189	8.36735	8.37274	8.37806	8.38332	55
6	8.35645	8.36198	8.36744	8.37283	8.37815	8.38341	54
7	8.35654	8.36207	8.36753	8.37292	8.37824	8.38350	53
8	8.35664	8.36216	8.36762	8.37301	8.37833	8.38359	52
9	8.35673	8.36225	8.36771	8.37310	8.37842	8.38367	51
10	8.35682	8.36235	8.36780	8.37318	8.37850	8.38376	50
11	8.35692	8.36244	8.36789	8.37327	8.37859	8.38385	49
12	8.35701	8.36253	8.36798	8.37336	8.37868	8.38393	48
13	8.35710	8.36262	8.36807	8.37345	8.37877	8.38402	47
14	8.35719	8.36271	8.36816	8.37354	8.37886	8.38411	46
15	8.35729	8.36280	8.36825	8.37363	8.37894	8.38420	45
16	8.35738	8.36289	8.36834	8.37372	8.37903	8.38428	44
17	8.35747	8.36299	8.36843	8.37381	8.37912	8.38437	43
18	8.35756	8.36308	8.36852	8.37390	8.37921	8.38446	42
19	8.35766	8.36317	8.36861	8.37399	8.37930	8.38454	41
20	8.35775	8.36326	8.36870	8.37408	8.37938	8.38463	40
21	8.35784	8.36335	8.36879	8.37416	8.37947	8.38472	39
22	8.35793	8.36344	8.36888	8.37425	8.37956	8.38480	38
23	8.35803	8.36353	8.36897	8.37434	8.37965	8.38489	37
24	8.35812	8.36362	8.36906	8.37443	8.37974	8.38498	36
25	8.35821	8.36372	8.36915	8.37452	8.37982	8.38506	35
26	8.35830	8.36381	8.36924	8.37461	8.37991	8.38515	34
27	8.35839	8.36390	8.36933	8.37470	8.38000	8.38524	33
28	8.35849	8.36399	8.36942	8.37479	8.38009	8.38532	32
29	8.35858	8.36408	8.36951	8.37488	8.38018	8.38541	31
30	8.35867	8.36417	8.36960	8.37497	8.38026	8.38550	30
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
30	8.35856	8.36405	8.36943	8.37484	8.38014	8.38537	30
31	8.35865	8.36415	8.36957	8.37493	8.38023	8.38546	29
32	8.35874	8.36424	8.36966	8.37502	8.38031	8.38554	28
33	8.35883	8.36433	8.36975	8.37511	8.38040	8.38563	27
34	8.35893	8.36442	8.36984	8.37520	8.38049	8.38572	26
35	8.35902	8.36451	8.36993	8.37529	8.38058	8.38580	25
36	8.35911	8.36460	8.37002	8.37538	8.38066	8.38589	24
37	8.35920	8.36469	8.37011	8.37546	8.38075	8.38598	23
38	8.35929	8.36478	8.37020	8.37555	8.38084	8.38606	22
39	8.35939	8.36487	8.37029	8.375[illegible]4	8.38093	8.38615	21
40	8.35948	8.36496	8.37038	8.37573	8.38101	8.38624	20
41	8.35957	8.36505	8.37047	8.37582	8.38110	8.38632	19
42	8.35966	8.36515	8.37056	8.37591	8.38119	8.38641	18
43	8.35975	8.36524	8.37065	8.37600	8.38128	8.38650	17
44	8.35985	8.36533	8.37074	8.37608	8.38136	8.38658	16
45	8.35994	8.36542	8.37083	8.37617	8.38145	8.38667	15
46	8.36003	8.36551	8.37092	8.37626	8.38154	8.38675	14
47	8.36012	8.36560	8.37101	8.37635	8.38163	8.38684	13
48	8.36021	8.36569	8.37110	8.37644	8.38171	8.38693	12
49	8.36031	8.36578	8.37119	8.37653	8.38180	8.38701	11
50	8.36040	8.36587	8.37128	8.37662	8.38189	8.38710	10
51	8.36049	8.36596	8.37137	8.37670	8.38198	8.38719	9
52	8.36058	8.36605	8.37146	8.37679	8.38206	8.38727	8
53	8.36067	8.36614	8.37155	8.37688	8.38215	8.38736	7
54	8.36076	8.36623	8.37163	8.37697	8.38224	8.38744	6
55	8.36086	8.36632	8.37172	8.37706	8.38233	8.38753	5
56	8.36095	8.36641	8.37181	8.37715	8.38241	8.38762	4
57	8.36104	8.36651	8.37190	8.37723	8.38250	8.38770	3
58	8.36113	8.36660	8.37199	8.37732	8.38259	8.38779	2
59	8.36122	8.36669	8.37208	8.37741	8.38267	8.38788	1
60	8.36131	8.36678	8.37217	8.37750	8.38276	8.38796	0
″	41′	40′	39′	38′	37′	36′	″

″	18′	19′	20′	21′	22′	23′	″
30	8.35867	8.36417	8.36960	8.37497	8.38026	8.38550	30
31	8.35876	8.36426	8.36969	8.37505	8.38035	8.38558	29
32	8.35886	8.36435	8.36978	8.37514	8.38044	8.38567	28
33	8.35895	8.36444	8.36987	8.37523	8.38053	8.38576	27
34	8.35904	8.36453	8.36996	8.37532	8.38061	8.38584	26
35	8.35913	8.36463	8.37005	8.37541	8.38070	8.38593	25
36	8.35922	8.36472	8.37014	8.37550	8.38079	8.38602	24
37	8.35932	8.36481	8.37023	8.37559	8.38088	8.38610	23
38	8.35941	8.36490	8.37032	8.37568	8.38097	8.38619	22
39	8.35950	8.36499	8.37041	8.37576	8.38105	8.38628	21
40	8.35959	8.36508	8.37050	8.37585	8.38114	8.38636	20
41	8.35968	8.36517	8.37059	8.37594	8.38123	8.38645	19
42	8.35978	8.36526	8.37068	8.37603	8.38132	8.38654	18
43	8.35987	8.36535	8.37077	8.37612	8.38140	8.38662	17
44	8.35996	8.36544	8.37086	8.37621	8.38149	8.38671	16
45	8.36005	8.36553	8.37095	8.37630	8.38158	8.38680	15
46	8.36014	8.36563	8.37104	8.37638	8.38167	8.38688	14
47	8.36024	8.36572	8.37113	8.37647	8.38175	8.38697	13
48	8.36033	8.36581	8.37122	8.37656	8.38184	8.38706	12
49	8.36042	8.36590	8.37131	8.37665	8.38193	8.38714	11
50	8.36051	8.36599	8.37140	8.37674	8.38202	8.38723	10
51	8.36060	8.36608	8.37149	8.37683	8.38210	8.38732	9
52	8.36070	8.36617	8.37158	8.37692	8.38219	8.38740	8
53	8.36079	8.36626	8.37167	8.37700	8.38228	8.38749	7
54	8.36088	8.36635	8.37175	8.37709	8.38236	8.38757	6
55	8.36097	8.36644	8.37184	8.37718	8.38245	8.38766	5
56	8.36106	8.36653	8.37193	8.37727	8.38254	8.38775	4
57	8.36115	8.36662	8.37202	8.37736	8.38263	8.38783	3
58	8.36125	8.36671	8.37211	8.37745	8.38271	8.38792	2
59	8.36134	8.36680	8.37220	8.37753	8.38280	8.38801	1
60	8.36143	8.36689	8.37229	8.37762	8.38289	8.38809	0
″	41′	40′	39′	38′	37′	36′	″

″	24′	25′	26′	27′	28′	29′	″
0	8.38796	8.39310	8.39818	8.40320	8.40816	8.41307	60
1	8.38805	8.39319	8.39826	8.40328	8.40824	8.41315	59
2	8.38813	8.39327	8.39835	8.40337	8.40833	8.41323	58
3	8.38822	8.39336	8.39843	8.40345	8.40841	8.41331	57
4	8.38831	8.39344	8.39852	8.40353	8.40849	8.41339	56
5	8.38839	8.39353	8.39860	8.40361	8.40857	8.41347	55
6	8.38848	8.39361	8.39868	8.40370	8.40865	8.41356	54
7	8.38856	8.39370	8.39877	8.40378	8.40874	8.41364	53
8	8.38865	8.39378	8.39885	8.40386	8.40882	8.41372	52
9	8.38874	8.39387	8.39894	8.40395	8.40890	8.41380	51
10	8.38882	8.39395	8.39902	8.40403	8.40898	8.41388	50
11	8.38891	8.39404	8.39910	8.40411	8.40906	8.41396	49
12	8.38899	8.39412	8.39919	8.40420	8.40915	8.41404	48
13	8.38908	8.39421	8.39927	8.40428	8.40923	8.41412	47
14	8.38917	8.39429	8.39936	8.40436	8.40931	8.41420	46
15	8.38925	8.39438	8.39944	8.40444	8.40939	8.41429	45
16	8.38934	8.39446	8.39952	8.40453	8.40948	8.41437	44
17	8.38942	8.39455	8.39961	8.40461	8.40956	8.41445	43
18	8.38951	8.39463	8.39969	8.40469	8.40964	8.41453	42
19	8.38960	8.39472	8.39978	8.40478	8.40972	8.41461	41
20	8.38968	8.39480	8.39986	8.40486	8.40980	8.41469	40
21	8.38977	8.39489	8.39994	8.40494	8.40988	8.41477	39
22	8.38985	8.39497	8.40003	8.40503	8.40997	8.41485	38
23	8.38994	8.39505	8.40011	8.40511	8.41005	8.41493	37
24	8.39002	8.39514	8.40019	8.40519	8.41013	8.41501	36
25	8.39011	8.39522	8.40028	8.40527	8.41021	8.41510	35
26	8.39020	8.39531	8.40036	8.40536	8.41029	8.41518	34
27	8.39028	8.39539	8.40045	8.40544	8.41038	8.41526	33
28	8.39037	8.39548	8.40053	8.40552	8.41046	8.41534	32
29	8.39045	8.39556	8.40061	8.40560	8.41054	8.41542	31
30	8.39054	8.39565	8.40070	8.40569	8.41062	8.41550	30
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
0	8.38809	8.39323	8.39832	8.40334	8.40830	8.41321	60
1	8.38818	8.39332	8.39840	8.40342	8.40839	8.41329	59
2	8.38826	8.39340	8.39848	8.40350	8.40847	8.41338	58
3	8.38835	8.39349	8.39857	8.40359	8.40855	8.41346	57
4	8.38844	8.39357	8.39865	8.40367	8.40863	8.41354	56
5	8.38852	8.39366	8.39874	8.40375	8.40871	8.41362	55
6	8.38861	8.39374	8.39882	8.40384	8.40880	8.41370	54
7	8.38869	8.39383	8.39890	8.40392	8.40888	8.41378	53
8	8.38878	8.39391	8.39899	8.40400	8.40896	8.41386	52
9	8.38887	8.39400	8.39907	8.40409	8.40904	8.41394	51
10	8.38895	8.39408	8.39916	8.40417	8.40913	8.41403	50
11	8.38904	8.39417	8.39924	8.40425	8.40921	8.41411	49
12	8.38913	8.39425	8.39932	8.40434	8.40929	8.41419	48
13	8.38921	8.39434	8.39941	8.40442	8.40937	8.41427	47
14	8.38930	8.39442	8.39949	8.40450	8.40945	8.41435	46
15	8.38938	8.39451	8.39958	8.40458	8.40954	8.41443	45
16	8.38947	8.39459	8.39966	8.40467	8.40962	8.41451	44
17	8.38955	8.39468	8.39974	8.40475	8.40970	8.41459	43
18	8.38964	8.39476	8.39983	8.40483	8.40978	8.41468	42
19	8.38973	8.39485	8.39991	8.40492	8.40986	8.41476	41
20	8.38981	8.39493	8.40000	8.40500	8.40995	8.41484	40
21	8.38990	8.39502	8.40008	8.40508	8.41003	8.41492	39
22	8.38998	8.39510	8.40016	8.40517	8.41011	8.41500	38
23	8.39007	8.39519	8.40025	8.40525	8.41019	8.41508	37
24	8.39016	8.39527	8.40033	8.40533	8.41027	8.41516	36
25	8.39024	8.39536	8.40042	8.40541	8.41036	8.41524	35
26	8.39033	8.36544	8.40050	8.40550	8.41044	8.41532	34
27	8.39041	8.39553	8.40058	8.40558	8.41052	8.41540	33
28	8.39050	8.39561	8.40067	8.40566	8.41060	8.41549	32
29	8.39058	8.39570	8.40075	8.40575	8.41068	8.41557	31
30	8.39067	8.39578	8.40083	8.40583	8.41077	8.41565	30
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
30	8.39054	8.39565	8.40070	8.40569	8.41062	8.41550	30
31	8.39062	8.39573	8.40078	8.40577	8.41070	8.41558	29
32	8.39071	8.39582	8.40086	8.40585	8.41078	8.41566	28
33	8.39080	8.39590	8.40095	8.40594	8.41087	8.41574	27
34	8.39088	8.39599	8.40103	8.40602	8.41095	8.41582	26
35	8.39097	8.39607	8.40111	8.40610	8.41103	8.41590	25
36	8.39105	8.39616	8.40120	8.40618	8.41111	8.41598	24
37	8.39114	8.39624	8.40128	8.40627	8.41119	8.41607	23
38	8.39122	8.39632	8.40137	8.40635	8.41128	8.41615	22
39	8.39131	8.39641	8.40145	8.40643	8.41136	8.41623	21
40	8.39139	8.39649	8.40153	8.40651	8.41144	8.41631	20
41	8.39148	8.39658	8.40162	8.40660	8.41152	8.41639	19
42	8.39157	8.39666	8.40170	8.40668	8.41160	8.41647	18
43	8.39165	8.39675	8.40178	8.40676	8.41168	8.41655	17
44	8.39174	8.39683	8.40187	8.40684	8.41176	8.41663	16
45	8.39182	8.39692	8.40195	8.40693	8.41185	8.41671	15
46	8.39191	8.39700	8.40203	8.40701	8.41193	8.41679	14
47	8.39199	8.39708	8.40212	8.40709	8.41201	8.41687	13
48	8.39208	8.39717	8.40220	8.40717	8.41209	8.41695	12
49	8.39216	8.39725	8.40228	8.40726	8.41217	8.41703	11
50	8.39225	8.39734	8.40237	8.40734	8.41225	8.41711	10
51	8.39233	8.39742	8.40245	8.40742	8.41234	8.41719	9
52	8.39242	8.39751	8.40253	8.40750	8.41242	8.41728	8
53	8.39250	8.39759	8.40262	8.40759	8.41250	8.41736	7
54	8.39259	8.39767	8.40270	8.40767	8.41258	8.41744	6
55	8.39267	8.39776	8.40278	8.40775	8.41266	8.41752	5
56	8.39276	8.39784	8.40287	8.40783	8.41274	8.41760	4
57	8.39285	8.39793	8.40295	8.40791	8.41282	8.41768	3
58	8.39293	8.39801	8.40303	8.40800	8.41290	8.41776	2
59	8.39302	8.39810	8.40312	8.40808	8.41299	8.41784	1
60	8.39310	8.39818	8.40320	8.40816	8.41307	8.41792	0
″	35′	34′	33′	32′	31′	30′	″

″	24′	25′	26′	27′	28′	29′	″
30	8.39067	8.39578	8.40083	8.40583	8.41077	8.41565	30
31	8.39076	8.39587	8.40092	8.40591	8.41085	8.41573	29
32	8.39084	8.39595	8.40100	8.40599	8.41093	8.41581	28
33	8.39093	8.39604	8.40108	8.40608	8.41101	8.41589	27
34	8.39101	8.39612	8.40117	8.40616	8.41109	8.41597	26
35	8.39110	8.39621	8.40125	8.40624	8.41117	8.41605	25
36	8.39118	8.39629	8.40134	8.40632	8.41126	8.41613	24
37	8.39127	8.39637	8.40142	8.40641	8.41134	8.41621	23
38	8.39136	8.39646	8.40150	8.40649	8.41142	8.41629	22
39	8.39144	8.39654	8.40159	8.40657	8.41150	8.41637	21
40	8.39153	8.39663	8.40167	8.40665	8.41158	8.41646	20
41	8.39161	8.39671	8.40175	8.40674	8.41166	8.41654	19
42	8.39170	8.39680	8.40184	8.40682	8.41175	8.41662	18
43	8.39178	8.39688	8.40192	8.40690	8.41183	8.41670	17
44	8.39187	8.39697	8.40200	8.40699	8.41191	8.41678	16
45	8.39195	8.39705	8.40209	8.40707	8.41199	8.41686	15
46	8.39204	8.39713	8.40217	8.40715	8.41207	8.41694	14
47	8.39212	8.39722	8.40225	8.40723	8.41215	8.41702	13
48	8.39221	8.39730	8.40234	8.40732	8.41224	8.41710	12
49	8.39230	8.39739	8.40242	8.40740	8.41232	8.41718	11
50	8.39238	8.39747	8.40250	8.40748	8.41240	8.41726	10
51	8.39247	8.39756	8.40259	8.40756	8.41248	8.41734	9
52	8.39255	8.39764	8.40267	8.40764	8.41256	8.41742	8
53	8.39264	8.39773	8.40276	8.40773	8.41264	8.41750	7
54	8.39272	8.39781	8.40284	8.40781	8.41272	8.41758	6
55	8.39281	8.39789	8.40292	8.40789	8.41281	8.41767	5
56	8.39289	8.39798	8.40301	8.40797	8.41289	8.41775	4
57	8.39298	8.39806	8.40309	8.40806	8.41297	8.41783	3
58	8.39306	8.39815	8.40317	8.40814	8.41305	8.41791	2
59	8.39315	8.39823	8.40325	8.40822	8.41313	8.41799	1
60	8.39323	8.39832	8.40334	8.40830	8.41321	8.41807	0
″	35′	34′	33′	32′	31′	30′	″

″	30′	31′	32′	33′	34′	35′	″
0	8.41792	8.42272	8.42746	8.43216	8.43680	8.44139	60
1	8.41800	8.42280	8.42754	8.43223	8.43688	8.44147	59
2	8.41808	8.42288	8.42762	8.43231	8.43695	8.44155	58
3	8.41816	8.42296	8.42770	8.43239	8.43703	8.44162	57
4	8.41824	8.42303	8.42778	8.43247	8.43711	8.44170	56
5	8.41832	8.42311	8.42786	8.43254	8.43718	8.44178	55
6	8.41840	8.42319	8.42793	8.43262	8.43726	8.44185	54
7	8.41848	8.42327	8.42801	8.43270	8.43734	8.44193	53
8	8.41856	8.42335	8.42809	8.43278	8.43742	8.44200	52
9	8.41864	8.42343	8.42817	8.43286	8.43749	8.44208	51
10	8.41872	8.42351	8.42825	8.43293	8.43757	8.44216	50
11	8.41880	8.42359	8.42833	8.43301	8.43765	8.44223	49
12	8.41888	8.42367	8.42840	8.43309	8.43772	8.44231	48
13	8.41896	8.42375	8.42848	8.43317	8.43780	8.44238	47
14	8.41904	8.42383	8.42856	8.43324	8.43788	8.44246	46
15	8.41912	8.42391	8.42864	8.43332	8.43795	8.44254	45
16	8.41920	8.42399	8.42872	8.43340	8.43803	8.44261	44
17	8.41928	8.42407	8.42880	8.43348	8.43811	8.44269	43
18	8.41936	8.42415	8.42888	8.43355	8.43818	8.44276	42
19	8.41944	8.42423	8.42895	8.43363	8.43826	8.44284	41
20	8.41952	8.42430	8.42903	8.43371	8.43834	8.44292	40
21	8.41960	8.42438	8.42911	8.43379	8.43841	8.44299	39
22	8.41968	8.42446	8.42919	8.43386	8.43849	8.44307	38
23	8.41976	8.42454	8.42927	8.43394	8.43857	8.44314	37
24	8.41984	8.42462	8.42935	8.43402	8.43864	8.44322	36
25	8.41992	8.42470	8.42942	8.43410	8.43872	8.44329	35
26	8.42000	8.42478	8.42950	8.43417	8.43880	8.44337	34
27	8.42008	8.42486	8.42958	8.43425	8.43887	8.44345	33
28	8.42016	8.42494	8.42966	8.43433	8.43895	8.44352	32
29	8.42024	8.42502	8.42974	8.43441	8.43903	8.44360	31
30	8.42032	8.42510	8.42982	8.43448	8.43910	8.44367	30
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
0	8.41807	8.42287	8.42762	8.43232	8.43696	8.44156	60
1	8.41815	8.42295	8.42770	8.43239	8.43704	8.44164	59
2	8.41823	8.42303	8.42778	8.43247	8.43712	8.44171	58
3	8.41831	8.42311	8.42785	8.43255	8.43719	8.44179	57
4	8.41839	8.42319	8.42793	8.43263	8.43727	8.44187	56
5	8.41847	8.42327	8.42801	8.43270	8.43735	8.44194	55
6	8.41855	8.42335	8.42809	8.43278	8.43742	8.44202	54
7	8.41863	8.42343	8.42817	8.43286	8.43750	8.44209	53
8	8.41871	8.42351	8.42825	8.43294	8.43758	8.44217	52
9	8.41879	8.42358	8.42833	8.43302	8.43766	8.44225	51
10	8.41887	8.42366	8.42840	8.43309	8.43773	8.44232	50
11	8.41895	8.42374	8.42848	8.43317	8.43781	8.44240	49
12	8.41903	8.42382	8.42856	8.43325	8.43789	8.44247	48
13	8.41911	8.42390	8.42864	8.43333	8.43796	8.44255	47
14	8.41919	8.42398	8.42872	8.43340	8.43804	8.44263	46
15	8.41927	8.42406	8.42880	8.43348	8.43812	8.44270	45
16	8.41935	8.42414	8.42888	8.43356	8.43819	8.44278	44
17	8.41943	8.42422	8.42895	8.43364	8.43827	8.44285	43
18	8.41951	8.42430	8.42903	8.43371	8.43835	8.44293	42
19	8.41959	8.42438	8.42911	8.43379	8.43842	8.44301	41
20	8.41967	8.42446	8.42919	8.43387	8.43850	8.44308	40
21	8.41975	8.42454	8.42927	8.43395	8.43858	8.44316	39
22	8.41983	8.42462	8.42935	8.43402	8.43865	8.44323	38
23	8.41991	8.42470	8.42942	8.43410	8.43873	8.44331	37
24	8.41999	8.42477	8.42950	8.43418	8.43881	8.44339	36
25	8.42007	8.42485	8.42958	8.43426	8.43888	8.44346	35
26	8.42015	8.42493	8.42966	8.43433	8.43896	8.44354	34
27	8.42023	8.42501	8.42974	8.43441	8.43904	8.44361	33
28	8.42031	8.42509	8.42982	8.43449	8.43911	8.44369	32
29	8.42040	8.42517	8.42989	8.43457	8.43919	8.44377	31
30	8.42048	8.42525	8.42997	8.43464	8.43927	8.44384	30
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
30	8.42032	8.42510	8.42982	8.43448	8.43910	8.44367	30
31	8.42040	8.42518	8.42989	8.43456	8.43918	8.44375	29
32	8.42048	8.42525	8.42997	8.43464	8.43926	8.44383	28
33	8.42056	8.42533	8.43005	8.43472	8.43933	8.44390	27
34	8.42064	8.42541	8.43013	8.43479	8.43941	8.44398	26
35	8.42072	8.42549	8.43021	8.43487	8.43949	8.44405	25
36	8.42080	8.42557	8.43028	8.43495	8.43956	8.44413	24
37	8.42088	8.42565	8.43036	8.43503	8.43964	8.44420	23
38	8.42096	8.42573	8.43044	8.43510	8.43972	8.44428	22
39	8.42104	8.42581	8.43052	8.43518	8.43979	8.44436	21
40	8.42112	8.42589	8.43060	8.43526	8.43987	8.44443	20
41	8.42120	8.42597	8.43068	8.43533	8.43994	8.44451	19
42	8.42128	8.42604	8.43075	8.43541	8.44002	8.44458	18
43	8.42136	8.42612	8.43083	8.43549	8.44010	8.44466	17
44	8.42144	8.42620	8.43091	8.43557	8.44017	8.44473	16
45	8.42152	8.42628	8.43099	8.43564	8.44025	8.44481	15
46	8.42160	8.42636	8.43107	8.43572	8.44033	8.44488	14
47	8.42168	8.42644	8.43114	8.43580	8.44040	8.44496	13
48	8.42176	8.42652	8.43122	8.43588	8.44048	8.44504	12
49	8.42184	8.42660	8.43130	8.43595	8.44056	8.44511	11
50	8.42192	8.42667	8.43138	8.43603	8.44063	8.44519	10
51	8.42200	8.42675	8.43146	8.43611	8.44071	8.44526	9
52	8.42208	8.42683	8.43153	8.43618	8.44078	8.44534	8
53	8.42216	8.42691	8.43161	8.43626	8.44086	8.44541	7
54	8.42224	8.42699	8.43169	8.43634	8.44094	8.44549	6
55	8.42232	8.42707	8.43177	8.43641	8.44101	8.44556	5
56	8.42240	8.42715	8.43184	8.43649	8.44109	8.44564	4
57	8.42248	8.42723	8.43192	8.43657	8.44117	8.44571	3
58	8.42256	8.42730	8.43200	8.43665	8.44124	8.44579	2
59	8.42264	8.42738	8.43208	8.43672	8.44132	8.44587	1
60	8.42272	8.42746	8.43216	8.43680	8.44139	8.44594	0
″	29′	28′	27′	26′	25′	24′	″

″	30′	31′	32′	33′	34′	35′	″
30	8.42048	8.42525	8.42997	8.43464	8.43927	8.44384	30
31	8.42056	8.42533	8.43005	8.43472	8.43934	8.44392	29
32	8.42064	8.42541	8.43013	8.43480	8.43942	8.44399	28
33	8.42072	8.42549	8.43021	8.43488	8.43950	8.44407	27
34	8.42079	8.42557	8.43029	8.43495	8.43957	8.44414	26
35	8.42087	8.42565	8.43036	8.43503	8.43965	8.44422	25
36	8.42095	8.42572	8.43044	8.43511	8.43973	8.44430	24
37	8.42103	8.42580	8.43052	8.43519	8.43980	8.44437	23
38	8.42111	8.42588	8.43060	8.43526	8.43988	8.44445	22
39	8.42119	8.42596	8.43068	8.43534	8.43996	8.44452	21
40	8.42127	8.42604	8.43075	8.43542	8.44003	8.44460	20
41	8.42135	8.42612	8.43083	8.43550	8.44011	8.44467	19
42	8.42143	8.42620	8.43091	8.43557	8.44019	8.44475	18
43	8.42151	8.42628	8.43099	8.43565	8.44026	8.44483	17
44	8.42159	8.42636	8.43107	8.43573	8.44034	8.44490	16
45	8.42167	8.42644	8.43115	8.43581	8.44042	8.44498	15
46	8.42175	8.42651	8.43122	8.43588	8.44049	8.44505	14
47	8.42183	8.42659	8.43130	8.43596	8.44057	8.44513	13
48	8.42191	8.42667	8.43138	8.43604	8.44064	8.44520	12
49	8.42199	8.42675	8.43146	8.43611	8.44072	8.44528	11
50	8.42207	8.42683	8.43154	8.43619	8.44080	8.44536	10
51	8.42215	8.42691	8.43161	8.43627	8.44087	8.44543	9
52	8.42223	8.42699	8.43169	8.43635	8.44095	8.44551	8
53	8.42231	8.42707	8.43177	8.43642	8.44103	8.44558	7
54	8.42239	8.42715	8.43185	8.43650	8.44110	8.44566	6
55	8.42247	8.42722	8.43193	8.43658	8.44118	8.44573	5
56	8.42255	8.42730	8.43200	8.43665	8.44126	8.44581	4
57	8.42263	8.42738	8.43208	8.43673	8.44133	8.44588	3
58	8.42271	8.42746	8.43216	8.43681	8.44141	8.44596	2
59	8.42279	8.42754	8.43224	8.43689	8.44148	8.44603	1
60	8.42287	8.42762	8.43232	8.43696	8.44156	8.44611	0
″	29′	28′	27′	26′	25′	24′	″

″	36′	37′	38′	39′	40′	41′	″
0	8.44594	8.45044	8.45489	8.45930	8.46366	8.46799	60
1	8.44602	8.45051	8.45497	8.45937	8.46374	8.46806	59
2	8.44609	8.45059	8.45504	8.45945	8.46381	8.46813	58
3	8.44617	8.45066	8.45511	8.45952	8.46388	8.46820	57
4	8.44624	8.45074	8.45519	8.45959	8.46395	8.46827	56
5	8.44632	8.45081	8.45526	8.45967	8.46403	8.46834	55
6	8.44639	8.45089	8.45534	8.45974	8.46410	8.46841	54
7	8.44647	8.45096	8.45541	8.45981	8.46417	8.46849	53
8	8.44654	8.45104	8.45548	8.45989	8.46424	8.46856	52
9	8.44662	8.45111	8.45556	8.45996	8.46432	8.46863	51
10	8.44669	8.45119	8.45563	8.46003	8.46439	8.46870	50
11	8.44677	8.45126	8.45570	8.46010	8.46446	8.46877	49
12	8.44684	8.45133	8.45578	8.46018	8.46453	8.46884	48
13	8.44692	8.45141	8.45585	8.46025	8.46460	8.46892	47
14	8.44699	8.45148	8.45593	8.46032	8.46468	8.46899	46
15	8.44707	8.45156	8.45600	8.46040	8.46475	8.46906	45
16	8.44715	8.45163	8.45607	8.46047	8.46482	8.46913	44
17	8.44722	8.45171	8.45615	8.46054	8.46489	8.46920	43
18	8.44730	8.45178	8.45622	8.46061	8.46497	8.46927	42
19	8.44737	8.45186	8.45629	8.46069	8.46504	8.46934	41
20	8.44745	8.45193	8.45637	8.46076	8.46511	8.46942	40
21	8.44752	8.45200	8.45644	8.46083	8.46518	8.46949	39
22	8.44760	8.45208	8.45651	8.46091	8.46525	8.46956	38
23	8.44767	8.45215	8.45659	8.46098	8.46533	8.46963	37
24	8.44775	8.45223	8.45666	8.46105	8.46540	8.46970	36
25	8.44782	8.45230	8.45674	8.46112	8.46547	8.46977	35
26	8.44790	8.45238	8.45681	8.46120	8.46554	8.46984	34
27	8.44797	8.45245	8.45688	8.46127	8.46561	8.46992	33
28	8.44805	8.45252	8.45696	8.46134	8.46569	8.46999	32
29	8.44812	8.45260	8.45703	8.46142	8.46576	8.47006	31
30	8.44820	8.45267	8.45710	8.46149	8.46583	8.47013	30
″	23′	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
0	8.44611	8.45061	8.45507	8.45948	8.46385	8.46817	60
1	8.44619	8.45069	8.45514	8.45955	8.46392	8.46824	59
2	8.44626	8.45076	8.45522	8.45963	8.46399	8.46832	58
3	8.44634	8.45084	8.45529	8.45970	8.46407	8.46839	57
4	8.44641	8.45091	8.45537	8.45977	8.46414	8.46846	56
5	8.44649	8.45099	8.45544	8.45985	8.46421	8.46853	55
6	8.44656	8.45106	8.45551	8.45992	8.46428	8.46860	54
7	8.44664	8.45114	8.45559	8.45999	8.46436	8.46867	53
8	8.44671	8.45121	8.45566	8.46007	8.46443	8.46875	52
9	8.44679	8.45128	8.45573	8.46014	8.46450	8.46882	51
10	8.44686	8.45136	8.45581	8.46021	8.46457	8.46889	50
11	8.44694	8.45143	8.45588	8.46029	8.46464	8.46896	49
12	8.44701	8.45151	8.45596	8.46036	8.46472	8.46903	48
13	8.44709	8.45158	8.45603	8.46043	8.46479	8.46910	47
14	8.44717	8.45166	8.45610	8.46050	8.46486	8.46918	46
15	8.44724	8.45173	8.45618	8.46058	8.46493	8.46925	45
16	8.44732	8.45181	8.45625	8.46065	8.46501	8.46932	44
17	8.44739	8.45188	8.45632	8.46072	8.46508	8.46939	43
18	8.44747	8.45195	8.45640	8.46080	8.46515	8.46946	42
19	8.44754	8.45203	8.45647	8.46087	8.46522	8.46953	41
20	8.44762	8.45210	8.45655	8.46094	8.46529	8.46960	40
21	8.44769	8.45218	8.45662	8.46101	8.46537	8.46968	39
22	8.44777	8.45225	8.45669	8.46109	8.46544	8.46975	38
23	8.44784	8.45233	8.45677	8.46116	8.46551	8.46982	37
24	8.44792	8.45240	8.45684	8.46123	8.46558	8.46989	36
25	8.44799	8.45248	8.45691	8.46131	8.46566	8.46996	35
26	8.44807	8.45255	8.45699	8.46138	8.46573	8.47003	34
27	8.44814	8.45262	8.45706	8.46145	8.46580	8.47010	33
28	8.44822	8.45270	8.45713	8.46152	8.46587	8.47018	32
29	8.44829	8.45277	8.45721	8.46160	8.46594	8.47025	31
30	8.44837	8.45285	8.45728	8.46167	8.46602	8.47032	30
″	23	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
30	8.44820	8.45267	8.45710	8.46149	8.46583	8.47013	30
31	8.44827	8.45275	8.45718	8.46156	8.46590	8.47020	29
32	8.44835	8.45282	8.45725	8.46163	8.46597	8.47027	28
33	8.44842	8.45290	8.45732	8.46171	8.46605	8.47034	27
34	8.44850	8.45297	8.45740	8.46178	8.46612	8.47041	26
35	8.44857	8.45304	8.45747	8.46185	8.46619	8.47049	25
36	8.44865	8.45312	8.45754	8.46192	8.46626	8.47056	24
37	8.44872	8.45319	8.45762	8.46200	8.46633	8.47063	23
38	8.44880	8.45327	8.45769	8.46207	8.46641	8.47070	22
39	8.44887	8.45334	8.45776	8.46214	8.46648	8.47077	21
40	8.44895	8.45341	8.45784	8.46222	8.46655	8.47084	20
41	8.44902	8.45349	8.45791	8.46229	8.46662	8.47091	19
42	8.44910	8.45356	8.45798	8.46236	8.46669	8.47098	18
43	8.44917	8.45364	8.45806	8.46243	8.46677	8.47105	17
44	8.44924	8.45371	8.45813	8.46251	8.46684	8.47113	16
45	8.44932	8.45378	8.45820	8.46258	8.46691	8.47120	15
46	8.44939	8.45386	8.45828	8.46265	8.46698	8.47127	14
47	8.44947	8.45393	8.45835	8.46272	8.46705	8.47134	13
48	8.44954	8.45401	8.45842	8.46280	8.46712	8.47141	12
49	8.44962	8.45408	8.45850	8.46287	8.46720	8.47148	11
50	8.44969	8.45415	8.45857	8.46294	8.46727	8.47155	10
51	8.44977	8.45423	8.45864	8.46301	8.46734	8.47162	9
52	8.44984	8.45430	8.45872	8.46309	8.46741	8.47169	8
53	8.44992	8.45438	8.45879	8.46316	8.46748	8.47177	7
54	8.44999	8.45445	8.45886	8.46323	8.46755	8.47184	6
55	8.45007	8.45452	8.45894	8.46330	8.46763	8.47191	5
56	8.45014	8.45460	8.45901	8.46338	8.46770	8.47198	4
57	8.45022	8.45467	8.45908	8.46345	8.46777	8.47205	3
58	8.45029	8.45475	8.45916	8.46352	8.46784	8.47212	2
59	8.45037	8.45482	8.45923	8.46359	8.46791	8.47219	1
60	8.45044	8.45489	8.45930	8.46366	8.46799	8.47226	0
″	23′	22′	21′	20′	19′	18′	″

″	36′	37′	38′	39′	40′	41′	″
30	8.44837	8.45285	8.45728	8.46167	8.46602	8.47032	30
31	8.44844	8.45292	8.45735	8.46174	8.46609	8.47039	29
32	8.44852	8.45300	8.45743	8.46182	8.46616	8.47046	28
33	8.44859	8.45307	8.45750	8.46189	8.46623	8.47053	27
34	8.44867	8.45314	8.45758	8.46196	8.46630	8.47060	26
35	8.44874	8.45322	8.45765	8.46203	8.46638	8.47068	25
36	8.44882	8.45329	8.45772	8.46211	8.46645	8.47075	24
37	8.44889	8.45337	8.45780	8.46218	8.46652	8.47082	23
38	8.44897	8.45344	8.45787	8.46225	8.46659	8.47089	22
39	8.44904	8.45352	8.45794	8.46233	8.46666	8.47096	21
40	8.44912	8.45359	8.45802	8.46240	8.46674	8.47103	20
41	8.44919	8.45366	8.45809	8.46247	8.46681	8.47110	19
42	8.44927	8.45374	8.45816	8.46254	8.46688	8.47117	18
43	8.44934	8.45381	8.45824	8.46262	8.46695	8.47124	17
44	8.44942	8.45389	8.45831	8.46269	8.46702	8.47132	16
45	8.44949	8.45396	8.45838	8.46276	8.46710	8.47139	15
46	8.44957	8.45403	8.45846	8.46283	8.46717	8.47146	14
47	8.44964	8.45411	8.45853	8.46291	8.46724	8.47153	13
48	8.44972	8.45418	8.45860	8.46298	8.46731	8.47160	12
49	8.44979	8.45426	8.45868	8.46305	8.46738	8.47167	11
50	8.44987	8.45433	8.45875	8.46312	8.46745	8.47174	10
51	8.44994	8.45440	8.45882	8.46320	8.46753	8.47181	9
52	8.45002	8.45448	8.45890	8.46327	8.46760	8.47189	8
53	8.45009	8.45455	8.45897	8.46334	8.46767	8.47196	7
54	8.45016	8.45463	8.45904	8.46341	8.46774	8.47203	6
55	8.45024	8.45470	8.45912	8.46349	8.46781	8.47210	5
56	8.45031	8.45477	8.45919	8.46356	8.46789	8.47217	4
57	8.45039	8.45485	8.45926	8.46363	8.46796	8.47224	3
58	8.45046	8.45492	8.45934	8.46370	8.46803	8.47231	2
59	8.45054	8.45500	8.45941	8.46378	8.46810	8.47238	1
60	8.45061	8.45507	8.45948	8.46385	8.46817	8.47245	0
″	23′	22′	21′	20′	19′	18′	″

″	42′	43′	44′	45′	46′	47′	″
0	8.47226	8.47650	8.48069	8.48485	8.48896	8.49304	60
1	8.47233	8.47657	8.48076	8.48492	8.48903	8.49311	59
2	8.47240	8.47664	8.48083	8.48499	8.48910	8.49318	58
3	8.47248	8.47671	8.48090	8.48505	8.48917	8.49324	57
4	8.47255	8.47678	8.48097	8.48512	8.48924	8.49331	56
5	8.47262	8.47685	8.48104	8.48519	8.48930	8.49338	55
6	8.47269	8.47692	8.48111	8.48526	8.48937	8.49345	54
7	8.47276	8.47699	8.48118	8.48533	8.48944	8.49351	53
8	8.47283	8.47706	8.48125	8.48540	8.48951	8.49358	52
9	8.47290	8.47713	8.48132	8.48547	8.48958	8.49365	51
10	8.47297	8.47720	8.48139	8.48554	8.48965	8.49372	50
11	8.47304	8.47727	8.48146	8.48561	8.48971	8.49378	49
12	8.47311	8.47734	8.48153	8.48567	8.48978	8.49385	48
13	8.47318	8.47741	8.48160	8.48574	8.48985	8.49392	47
14	8.47325	8.47748	8.48167	8.48581	8.48992	8.49399	46
15	8.47333	8.47755	8.48174	8.48588	8.48999	8.49405	45
16	8.47340	8.47762	8.48181	8.48595	8.49005	8.49412	44
17	8.47347	8.47769	8.48187	8.48602	8.49012	8.49419	43
18	8.47354	8.47776	8.48194	8.48609	8.49019	8.49426	42
19	8.47361	8.47783	8.48201	8.48616	8.49026	8.49432	41
20	8.47368	8.47790	8.48208	8.48622	8.49033	8.49439	40
21	8.47375	8.47797	8.48215	8.48629	8.49039	8.49446	39
22	8.47382	8.47804	8.48222	8.48636	8.49046	8.49452	38
23	8.47389	8.47811	8.48229	8.48643	8.49053	8.49459	37
24	8.47396	8.47818	8.48236	8.48650	8.49060	8.49466	36
25	8.47403	8.47825	8.48243	8.48657	8.49067	8.49473	35
26	8.47410	8.47832	8.48250	8.48664	8.49073	8.49479	34
27	8.47417	8.47839	8.48257	8.48670	8.49080	8.49486	33
28	8.47424	8.47846	8.48264	8.48677	8.49087	8.49493	32
29	8.47432	8.47853	8.48271	8.48684	8.49094	8.49500	31
30	8.47439	8.47860	8.48278	8.48691	8.49101	8.49506	30
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
0	8.47245	8.47669	8.48089	8.48505	8.48917	8.49325	60
1	8.47252	8.47676	8.48096	8.48512	8.48924	8.49332	59
2	8.47260	8.47683	8.48103	8.48519	8.48931	8.49339	58
3	8.47267	8.47690	8.48110	8.48526	8.48937	8.49345	57
4	8.47274	8.47697	8.48117	8.48533	8.48944	8.49352	56
5	8.47281	8.47704	8.48124	8.48540	8.48951	8.49359	55
6	8.47288	8.47712	8.48131	8.48546	8.48958	8.49366	54
7	8.47295	8.47719	8.48138	8.48553	8.48965	8.49372	53
8	8.47302	8.47726	8.48145	8.48560	8.48972	8.49379	52
9	8.47309	8.47733	8.48152	8.48567	8.48978	8.49386	51
10	8.47316	8.47740	8.48159	8.48574	8.48985	8.49393	50
11	8.47323	8.47747	8.48166	8.48581	8.48992	8.49399	49
12	8.47330	8.47754	8.48173	8.48588	8.48999	8.49406	48
13	8.47338	8.47761	8.48180	8.48595	8.49006	8.49413	47
14	8.47345	8.47768	8.48187	8.48602	8.49013	8.49420	46
15	8.47352	8.47775	8.48194	8.48608	8.49019	8.49426	45
16	8.47359	8.47782	8.48200	8.48615	8.49026	8.49433	44
17	8.47366	8.47789	8.48207	8.48622	8.49033	8.49440	43
18	8.47373	8.47796	8.48214	8.48629	8.49040	8.49447	42
19	8.47380	8.47803	8.48221	8.48636	8.49047	8.49453	41
20	8.47387	8.47810	8.48228	8.48643	8.49053	8.49460	40
21	8.47394	8.47817	8.48235	8.48650	8.49060	8.49467	39
22	8.47401	8.47824	8.48242	8.48657	8.49067	8.49474	38
23	8.47408	8.47831	8.48249	8.48663	8.49074	8.49480	37
24	8.47415	8.47838	8.48256	8.48670	8.49081	8.49487	36
25	8.47423	8.47845	8.48263	8.48677	8.49087	8.49494	35
26	8.47430	8.47852	8.48270	8.48684	8.49094	8.49501	34
27	8.47437	8.47859	8.48277	8.48691	8.49101	8.49507	33
28	8.47444	8.47866	8.48284	8.48698	8.49108	8.49514	32
29	8.47451	8.47873	8.48291	8.48705	8.49115	8.49521	31
30	8.47458	8.47880	8.48298	8.48711	8.49121	8.49528	30
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
30	8.47439	8.47860	8.48278	8.48691	8.49101	8.49506	30
31	8.47446	8.47867	8.48284	8.48698	8.49107	8.49513	29
32	8.47453	8.47874	8.48291	8.48705	8.49114	8.49520	28
33	8.47460	8.47881	8.48298	8.48712	8.49121	8.49527	27
34	8.47467	8.47888	8.48305	8.48718	8.49128	8.49533	26
35	8.47474	8.47895	8.48312	8.48725	8.49135	8.49540	25
36	8.47481	8.47902	8.48319	8.48732	8.49141	8.49547	24
37	8.47488	8.47909	8.48326	8.48739	8.49148	8.49553	23
38	8.47495	8.47916	8.48333	8.48746	8.49155	8.49560	22
39	8.47502	8.47923	8.48340	8.48753	8.49162	8.49567	21
40	8.47509	8.47930	8.48347	8.48760	8.49169	8.49574	20
41	8.47516	8.47937	8.48354	8.48766	8.49175	8.49580	19
42	8.47523	8.47944	8.48361	8.48773	8.49182	8.49587	18
43	8.47530	8.47951	8.48367	8.48780	8.49189	8.49594	17
44	8.47537	8.47958	8.48374	8.48787	8.49196	8.49601	16
45	8.47544	8.47965	8.48381	8.48794	8.49202	8.49607	15
46	8.47551	8.47972	8.48388	8.48801	8.49209	8.49614	14
47	8.47558	8.47979	8.48395	8.48807	8.49216	8.49621	13
48	8.47565	8.47986	8.48402	8.48814	8.49223	8.49627	12
49	8.47572	8.47993	8.48409	8.48821	8.49230	8.49634	11
50	8.47580	8.48000	8.48416	8.48828	8.49236	8.49641	10
51	8.47587	8.48007	8.48423	8.48835	8.49243	8.49648	9
52	8.47594	8.48014	8.48430	8.48842	8.49250	8.49654	8
53	8.47601	8.48021	8.48437	8.48849	8.49257	8.49661	7
54	8.47608	8.48028	8.48443	8.48855	8.49263	8.49668	6
55	8.47615	8.48035	8.48450	8.48862	8.49270	8.49674	5
56	8.47622	8.48041	8.48457	8.48869	8.49277	8.49681	4
57	8.47629	8.48048	8.48464	8.48876	8.49284	8.49688	3
58	8.47636	8.48055	8.48471	8.48883	8.49290	8.49694	2
59	8.47643	8.48062	8.48478	8.48889	8.49297	8.49701	1
60	8.47650	8.48069	8.48485	8.48896	8.49304	8.49708	0
″	17′	16′	15′	14′	13′	12′	″

″	42′	43′	44′	45′	46′	47′	″
30	8.47458	8.47880	8.48298	8.48711	8.49121	8.49528	30
31	8.47465	8.47887	8.48305	8.48718	8.49128	8.49534	29
32	8.47472	8.47894	8.48311	8.48725	8.49135	8.49541	28
33	8.47479	8.47901	8.48318	8.48732	8.49142	8.49548	27
34	8.47486	8.47908	8.48325	8.48739	8.49149	8.49555	26
35	8.47493	8.47915	8.48332	8.48746	8.49155	8.49561	25
36	8.47500	8.47922	8.48339	8.48753	8.49162	8.49568	24
37	8.47507	8.47929	8.48346	8.48760	8.49169	8.49575	23
38	8.47514	8.47936	8.48353	8.48766	8.49176	8.49581	22
39	8.47521	8.47943	8.48360	8.48773	8.49183	8.49588	21
40	8.47528	8.47950	8.48367	8.48780	8.49189	8.49595	20
41	8.47536	8.47957	8.48374	8.48787	8.49196	8.49602	19
42	8.47543	8.47964	8.48381	8.48794	8.49203	8.49608	18
43	8.47550	8.47971	8.48388	8.48801	8.49210	8.49615	17
44	8.47557	8.47978	8.48395	8.48808	8.49217	8.49622	16
45	8.47564	8.47985	8.48401	8.48814	8.49223	8.49629	15
46	8.47571	8.47992	8.48408	8.48821	8.49230	8.49635	14
47	8.47578	8.47999	8.48415	8.48828	8.49237	8.49642	13
48	8.47585	8.48006	8.48422	8.48835	8.49244	8.49649	12
49	8.47592	8.48013	8.48429	8.48842	8.49250	8.49655	11
50	8.47599	8.48020	8.48436	8.48849	8.49257	8.49662	10
51	8.47606	8.48026	8.48443	8.48855	8.49264	8.49669	9
52	8.47613	8.48033	8.48450	8.48862	8.49271	8.49676	8
53	8.47620	8.48040	8.48457	8.48869	8.49278	8.49682	7
54	8.47627	8.48047	8.48464	8.48876	8.49284	8.49689	6
55	8.47634	8.48054	8.48471	8.48883	8.49291	8.49696	5
56	8.47641	8.48061	8.48477	8.48890	8.49298	8.49702	4
57	8.47648	8.48068	8.48484	8.48896	8.49305	8.49709	3
58	8.47655	8.48075	8.48491	8.48903	8.49311	8.49716	2
59	8.47662	8.48082	8.48498	8.48910	8.49318	8.49723	1
60	8.47669	8.48089	8.48505	8.48917	8.49325	8.49729	0
″	17′	16′	15′	14′	13′	12′	″

″	48′	49′	50′	51′	52′	53′	″
0	8.49708	8.50108	8.50504	8.50897	8.51287	8.51673	60
1	8.49715	8.50115	8.50511	8.50904	8.51293	8.51679	59
2	8.49721	8.50121	8.50518	8.50910	8.51300	8.51685	58
3	8.49728	8.50128	8.50524	8.50917	8.51306	8.51692	57
4	8.49735	8.50135	8.50531	8.50923	8.51313	8.51698	56
5	8.49741	8.50141	8.50537	8.50930	8.51319	8.51705	55
6	8.49748	8.50148	8.50544	8.50936	8.51325	8.51711	54
7	8.49755	8.50154	8.50550	8.50943	8.51332	8.51717	53
8	8.49761	8.50161	8.50557	8.50949	8.51338	8.51724	52
9	8.49768	8.50168	8.50564	8.50956	8.51345	8.51730	51
10	8.49775	8.50174	8.50570	8.50963	8.51351	8.51737	50
11	8.49781	8.50181	8.50577	8.50969	8.51358	8.51743	49
12	8.49788	8.50188	8.50583	8.50976	8.51364	8.51749	48
13	8.49795	8.50194	8.50590	8.50982	8.51371	8.51756	47
14	8.49802	8.50201	8.50596	8.50989	8.51377	8.51762	46
15	8.49808	8.50207	8.50603	8.50995	8.51384	8.51769	45
16	8.49815	8.50214	8.50610	8.51002	8.51390	8.51775	44
17	8.49822	8.50221	8.50616	8.51008	8.51396	8.51781	43
18	8.49828	8.50227	8.50623	8.51015	8.51403	8.51788	42
19	8.49835	8.50234	8.50629	8.51021	8.51409	8.51794	41
20	8.49842	8.50241	8.50636	8.51028	8.51416	8.51801	40
21	8.49848	8.50247	8.50642	8.51034	8.51422	8.51807	39
22	8.49855	8.50254	8.50649	8.51041	8.51429	8.51813	38
23	8.49862	8.50260	8.50655	8.51047	8.51435	8.51820	37
24	8.49868	8.50267	8.50662	8.51054	8.51442	8.51826	36
25	8.49875	8.50274	8.50669	8.51060	8.51448	8.51832	35
26	8.49882	8.50280	8.50675	8.51067	8.51454	8.51839	34
27	8.49888	8.50287	8.50682	8.51073	8.51461	8.51845	33
28	8.49895	8.50293	8.50688	8.51080	8.51467	8.51852	32
29	8.49902	8.50300	8.50695	8.51086	8.51474	8.51858	31
30	8.49908	8.50307	8.50701	8.51092	8.51480	8.51864	30
″	11′	10′	9′	8′	7′	6′	″

″	48′	49′	50′	51′	52′	53′	″
0	8.49729	8.50130	8.50527	8.50920	8.51310	8.51696	60
1	8.49736	8.50136	8.50533	8.50927	8.51316	8.51703	59
2	8.49743	8.50143	8.50540	8.50933	8.51323	8.51709	58
3	8.49749	8.50150	8.50546	8.50940	8.51329	8.51715	57
4	8.49756	8.50156	8.50553	8.50946	8.51336	8.51722	56
5	8.49763	8.50163	8.50560	8.50953	8.51342	8.51728	55
6	8.49769	8.50170	8.50566	8.50959	8.51349	8.51735	54
7	8.49776	8.50176	8.50573	8.50966	8.51355	8.51741	53
8	8.49783	8.50183	8.50579	8.50972	8.51361	8.51747	52
9	8.49790	8.50190	8.50586	8.50979	8.51368	8.51754	51
10	8.49796	8.50196	8.50593	8.50985	8.51374	8.51760	50
11	8.49803	8.50203	8.50599	8.50992	8.51381	8.51767	49
12	8.49810	8.50209	8.50606	8.50998	8.51387	8.51773	48
13	8.49816	8.50216	8.50612	8.51005	8.51394	8.51779	47
14	8.49823	8.50223	8.50619	8.51011	8.51400	8.51786	46
15	8.49830	8.50229	8.50625	8.51018	8.51407	8.51792	45
16	8.49836	8.50236	8.50632	8.51024	8.51413	8.51799	44
17	8.49843	8.50243	8.50639	8.51031	8.51420	8.51805	43
18	8.49850	8.50249	8.50645	8.51037	8.51426	8.51811	42
19	8.49857	8.50256	8.50652	8.51044	8.51432	8.51818	41
20	8.49863	8.50263	8.50658	8.51050	8.51439	8.51824	40
21	8.49870	8.50269	8.50665	8.51057	8.51445	8.51831	39
22	8.49877	8.50276	8.50671	8.51063	8.51452	8.51837	38
23	8.49883	8.50282	8.50678	8.51070	8.51458	8.51843	37
24	8.49890	8.50289	8.50684	8.51076	8.51465	8.51850	36
25	8.49897	8.50296	8.50691	8.51083	8.51471	8.51856	35
26	8.49903	8.50302	8.50698	8.51089	8.51478	8.51862	34
27	8.49910	8.50309	8.50704	8.51096	8.51484	8.51869	33
28	8.49917	8.50315	8.50711	8.51102	8.51490	8.51875	32
29	8.49923	8.50322	8.50717	8.51109	8.51497	8.51882	31
30	8.49930	8.50329	8.50724	8.51115	8.51503	8.51888	30
″	11′	10′	9′	8′	7′	6′	″

″	48′	49′	50′	51′	52′	53′	″
30	8.49908	8.50307	8.50701	8.51092	8.51480	8.51864	30
31	8.49915	8.50313	8.50708	8.51099	8.51487	8.51871	29
32	8.49922	8.50320	8.50714	8.51105	8.51493	8.51877	28
33	8.49928	8.50326	8.50721	8.51112	8.51499	8.51883	27
34	8.49935	8.50333	8.50728	8.51118	8.51506	8.51890	26
35	8.49942	8.50340	8.50734	8.51125	8.51512	8.51896	25
36	8.49948	8.50346	8.50741	8.51131	8.51519	8.51903	24
37	8.49955	8.50353	8.50747	8.51138	8.51525	8.51909	23
38	8.49962	8.50360	8.50754	8.51144	8.51532	8.51915	22
39	8.49968	8.50366	8.50760	8.51151	8.51538	8.51922	21
40	8.49975	8.50373	8.50767	8.51157	8.51544	8.51928	20
41	8.49982	8.50379	8.50773	8.51164	8.51551	8.51934	19
42	8.49988	8.50386	8.50780	8.51170	8.51557	8.51941	18
43	8.49995	8.50392	8.50786	8.51177	8.51564	8.51947	17
44	8.50002	8.50399	8.50793	8.51183	8.51570	8.51953	16
45	8.50008	8.50406	8.50799	8.51190	8.51576	8.51960	15
46	8.50015	8.50412	8.50806	8.51196	8.51583	8.51966	14
47	8.50022	8.50419	8.50813	8.51203	8.51589	8.51972	13
48	8.50028	8.50425	8.50819	8.51209	8.51596	8.51979	12
49	8.50035	8.50432	8.50826	8.51216	8.51602	8.51985	11
50	8.50042	8.50439	8.50832	8.51222	8.51609	8.51992	10
51	8.50048	8.50445	8.50839	8.51229	8.51615	8.51998	9
52	8.50055	8.50452	8.50845	8.51235	8.51621	8.52004	8
53	8.50061	8.50458	8.50852	8.51241	8.51628	8.52011	7
54	8.50068	8.50465	8.50858	8.51248	8.51634	8.52017	6
55	8.50075	8.50472	8.50865	8.51254	8.51641	8.52023	5
56	8.50081	8.50478	8.50871	8.51261	8.51647	8.52030	4
57	8.50088	8.50485	8.50878	8.51267	8.51653	8.52036	3
58	8.50095	8.50491	8.50884	8.51274	8.51660	8.52042	2
59	8.50101	8.50498	8.50891	8.51280	8.51666	8.52049	1
60	8.50108	8.50504	8.50897	8.51287	8.51673	8.52055	0
″	11′	10′	9′	8′	7′	6′	″

″	48′	49′	50′	51′	52′	53′	″
30	8.49930	8.50329	8.50724	8.51115	8.51503	8.51888	30
31	8.49937	8.50335	8.50730	8.51122	8.51510	8.51894	29
32	8.49943	8.50342	8.50737	8.51128	8.51516	8.51901	28
33	8.49950	8.50349	8.50743	8.51135	8.51523	8.51907	27
34	8.49957	8.50355	8.50750	8.51141	8.51529	8.51914	26
35	8.49963	8.50362	8.50757	8.51148	8.51536	8.51920	25
36	8.49970	8.50368	8.50763	8.51154	8.51542	8.51926	24
37	8.49977	8.50375	8.50770	8.51161	8.51548	8.51933	23
38	8.49983	8.50382	8.50776	8.51167	8.51555	8.51939	22
39	8.49990	8.50388	8.50783	8.51174	8.51561	8.51945	21
40	8.49997	8.50395	8.50789	8.51180	8.51568	8.51952	20
41	8.50003	8.50401	8.50796	8.51187	8.51574	8.51958	19
42	8.50010	8.50408	8.50802	8.51193	8.51581	8.51964	18
43	8.50017	8.50415	8.50809	8.51200	8.51587	8.51971	17
44	8.50023	8.50421	8.50815	8.51206	8.51593	8.51977	16
45	8.50030	8.50428	8.50822	8.51213	8.51600	8.51984	15
46	8.50037	8.50434	8.50829	8.51219	8.51606	8.51990	14
47	8.50043	8.50441	8.50835	8.51226	8.51613	8.51996	13
48	8.50050	8.50448	8.50842	8.51232	8.51619	8.52003	12
49	8.50057	8.50454	8.50848	8.51239	8.51626	8.52009	11
50	8.50063	8.50461	8.50855	8.51245	8.51632	8.52015	10
51	8.50070	8.50467	8.50861	8.51252	8.51638	8.52022	9
52	8.50077	8.50474	8.50868	8.51258	8.51645	8.52028	8
53	8.50083	8.50481	8.50874	8.51264	8.51651	8.52035	7
54	8.50090	8.50487	8.50881	8.51271	8.51658	8.52041	6
55	8.50097	8.50494	8.50887	8.51277	8.51664	8.52047	5
56	8.50103	8.50500	8.50894	8.51284	8.51670	8.52054	4
57	8.50110	8.50507	8.50900	8.51290	8.51677	8.52060	3
58	8.50117	8.50514	8.50907	8.51297	8.51683	8.52066	2
59	8.50123	8.50520	8.50913	8.51303	8.51690	8.52073	1
60	8.50130	8.50527	8.50920	8.51310	8.51696	8.52079	0
″	11′	10′	9′	8′	7′	6′	″

″	54′	55′	56′	57′	58′	59′	″
0	8.52055	8.52434	8.52810	8.53183	8.53552	8.53919	60
1	8.52061	8.52441	8.52816	8.53189	8.53558	8.53925	59
2	8.52068	8.52447	8.52823	8.53195	8.53565	8.53931	58
3	8.52074	8.52453	8.52829	8.53201	8.53571	8.53937	57
4	8.52081	8.52459	8.52835	8.53208	8.53577	8.53943	56
5	8.52087	8.52466	8.52841	8.53214	8.53583	8.53949	55
6	8.52093	8.52472	8.52848	8.53220	8.53589	8.53955	54
7	8.52100	8.52478	8.52854	8.53226	8.53595	8.53961	53
8	8.52106	8.52485	8.52860	8.53232	8.53601	8.53967	52
9	8.52112	8.52491	8.52866	8.53238	8.53607	8.53973	51
10	8.52119	8.52497	8.52872	8.53245	8.53614	8.53979	50
11	8.52125	8.52503	8.52879	8.53251	8.53620	8.53985	49
12	8.52131	8.52510	8.52885	8.53257	8.53626	8.53992	48
13	8.52138	8.52516	8.52891	8.53263	8.53632	8.53998	47
14	8.52144	8.52522	8.52897	8.53269	8.53638	8.54004	46
15	8.52150	8.52529	8.52904	8.53275	8.53644	8.54010	45
16	8.52157	8.52535	8.52910	8.53282	8.53650	8.54016	44
17	8.52163	8.52541	8.52916	8.53288	8.53656	8.54022	43
18	8.52169	8.52547	8.52922	8.53294	8.53663	8.54028	42
19	8.52176	8.52554	8.52929	8.53300	8.53669	8.54034	41
20	8.52182	8.52560	8.52935	8.53306	8.53675	8.54040	40
21	8.52188	8.52566	8.52941	8.53312	8.53681	8.54046	39
22	8.52195	8.52572	8.52947	8.53319	8.53687	8.54052	38
23	8.52201	8.52579	8.52953	8.53325	8.53693	8.54058	37
24	8.52207	8.52585	8.52960	8.53331	8.53699	8.54064	36
25	8.52214	8.52591	8.52966	8.53337	8.53705	8.54070	35
26	8.52220	8.52598	8.52972	8.53343	8.53711	8.54076	34
27	8.52226	8.52604	8.52978	8.53349	8.53718	8.54082	33
28	8.52232	8.52610	8.52984	8.53356	8.53724	8.54089	32
29	8.52239	8.52616	8.52991	8.53362	8.53730	8.54095	31
30	8.52245	8.52623	8.52997	8.53368	8.53736	8.54101	30
″	5′	4′	3′	2′	1′	0′	″

″	54′	55′	56′	57′	58′	59′	″
0	8.52079	8.52459	8.52835	8.53208	8.53578	8.53945	60
1	8.52085	8.52465	8.52841	8.53214	8.53584	8.53951	59
2	8.52092	8.52471	8.52847	8.53220	8.53590	8.53957	58
3	8.52098	8.52477	8.52854	8.53227	8.53596	8.53963	57
4	8.52104	8.52484	8.52860	8.53233	8.53602	8.53969	56
5	8.52111	8.52490	8.52866	8.53239	8.53609	8.53975	55
6	8.52117	8.52496	8.52872	8.53245	8.53615	8.53981	54
7	8.52123	8.52503	8.52879	8.53251	8.53621	8.53987	53
8	8.52130	8.52509	8.52885	8.53257	8.53627	8.53993	52
9	8.52136	8.52515	8.52891	8.53264	8.53633	8.53999	51
10	8.52142	8.52522	8.52897	8.53270	8.53639	8.54005	50
11	8.52149	8.52528	8.52904	8.53276	8.53645	8.54012	49
12	8.52155	8.52534	8.52910	8.53282	8.53651	8.54018	48
13	8.52162	8.52540	8.52916	8.53288	8.53658	8.54024	47
14	8.52168	8.52547	8.52922	8.53295	8.53664	8.54030	46
15	8.52174	8.52553	8.52928	8.53301	8.53670	8.54036	45
16	8.52181	8.52559	8.52935	8.53307	8.53676	8.54042	44
17	8.52187	8.52566	8.52941	8.53313	8.53682	8.54048	43
18	8.52193	8.52572	8.52947	8.53319	8.53688	8.54054	42
19	8.52200	8.52578	8.52953	8.53325	8.53694	8.54060	41
20	8.52206	8.52584	8.52960	8.53332	8.53700	8.54066	40
21	8.52212	8.52591	8.52966	8.53338	8.53707	8.54072	39
22	8.52219	8.52597	8.52972	8.53344	8.53713	8.54078	38
23	8.52225	8.52603	8.52978	8.53350	8.53719	8.54084	37
24	8.52231	8.52610	8.52985	8.53356	8.53725	8.54091	36
25	8.52238	8.52616	8.52991	8.53362	8.53731	8.54097	35
26	8.52244	8.52622	8.52997	8.53369	8.53737	8.54103	34
27	8.52250	8.52628	8.53003	8.53375	8.53743	8.54109	33
28	8.52257	8.52635	8.53009	8.53381	8.53749	8.54115	32
29	8.52263	8.52641	8.53016	8.53387	8.53756	8.54121	31
30	8.52269	8.52647	8.53022	8.53393	8.53762	8.54127	30
″	5′	4′	3′	2′	1′	0′	″

″	54′	55′	56′	57′	58′	59′	″
30	8.52245	8.52623	8.52997	8.53368	8.53736	8.54101	30
31	8.52251	8.52629	8.53003	8.53374	8.53742	8.54107	29
32	8.52258	8.52635	8.53009	8.53380	8.53748	8.54113	28
33	8.52264	8.52641	8.53016	8·53386	8.53754	8.54119	27
34	8.52270	8.52648	8.53022	8.53393	8.53760	8.54125	26
35	8.52277	8.52654	8.53028	8.53399	8.53766	8.54131	25
36	8.52283	8.52660	8.53034	8.53405	8.53772	8.54137	24
37	8.52289	8.52666	8.53040	8.53411	8.53779	8.54143	23
38	8.52296	8.52673	8.53047	8.53417	8.53785	8.54149	22
39	8.52302	8.52679	8.53053	8.53423	8.53791	8.54155	21
40	8.52308	8.52685	8.53059	8.53429	8.53797	8.54161	20
41	8.52315	8.52691	8.53065	8.53436	8.53803	8.54167	19
42	8.52321	8.52698	8.53071	8.53442	8.53809	8.54173	18
43	8.52327	8.52704	8.53078	8.53448	8.53815	8.54179	17
44	8.52334	8.52710	8.53084	8.53454	8.53821	8.54185	16
45	8.52340	8.52717	8.53090	8.53460	8.53827	8.54191	15
46	8.52346	8.52723	8.53096	8.53466	8.53833	8.54197	14
47	8.52352	8.52729	8.53102	8.53472	8.53840	8.54203	13
48	8.52359	8.52735	8.53109	8.53479	8.53846	8.54210	12
49	8.52365	8.52742	8.53115	8.53485	8.53852	8.54216	11
50	8.52371	8.52748	8.53121	8.53491	8.53858	8.54222	10
51	8.52378	8.52754	8.53127	8.53497	8.53864	8.54228	9
52	8.52384	8.52760	8.53133	8.53503	8.53870	8.54234	8
53	8.52390	8.52766	8.53140	8.53509	8.53876	8.54240	7
54	8.52397	8.52773	8.53146	8.53515	8.53882	8.54246	6
55	8.52403	8.52779	8.53152	8.53522	8.53888	8.54252	5
56	8.52409	8.52785	8.53158	8.53528	8.53894	8.54258	4
57	8.52415	8.52791	8.53164	8.53534	8.53900	8.54264	3
58	8.52422	8.52798	8.53170	8.53540	8.53906	8.54270	2
59	8.52428	8.52804	8.53177	8.53546	8.53913	8.54276	1
60	8.52434	8.52810	8.53183	8.53552	8.53919	8.54282	0
″	5′	4′	3′	2′	1′	0′	″

"	54'	55'	56'	57'	58'	59'	"
30	8.52269	8.52647	8.53022	8.53393	8.53762	8.54127	30
31	8.52276	8.52653	8.53028	8.53399	8.53768	8.54133	29
32	8.52282	8.52660	8.53034	8.53406	8.53774	8.54139	28
33	8.52288	8.52666	8.53040	8·53412	8.53780	8.54145	27
34	8.52295	8.52672	8.53047	8.53418	8.53786	8.54151	26
35	8.52301	8.52679	8.53053	8.53424	8.53792	8.54157	25
36	8.52307	8.52685	8.53059	8.53430	8.53798	8.54163	24
37	8.52313	8.52691	8.53065	8.53436	8.53804	8.54169	23
38	8.52320	8.52697	8.53072	8.53443	8.53811	8.54175	22
39	8.52326	8.52704	8.53078	8.53449	8.53817	8.54181	21
40	8.52332	8.52710	8.53084	8.53455	8.53823	8.54187	20
41	8.52339	8.52716	8.53090	8.53461	8.53829	8.54194	19
42	8.52345	8.52722	8.53096	8.53467	8.53835	8.54200	18
43	8.52351	8.52729	8.53103	8.53473	8.53841	8.54206	17
44	8.52358	8.52735	8.53109	8.53480	8.53847	8.54212	16
45	8.52364	8.52741	8.53115	8.53486	8.53853	8.54218	15
46	8.52370	8.52747	8.53121	8.53492	8.53859	8.54224	14
47	8.52377	8.52754	8.53127	8.53498	8.53865	8.54230	13
48	8.52383	8.52760	8.53134	8.53504	8.53872	8.54236	12
49	8.52389	8.52766	8.53140	8.53510	8.53878	8.54242	11
50	8.52396	8.52772	8.53146	8.53516	8.53884	8.54248	10
51	8.52402	8.52779	8.53152	8.53523	8.53890	8.54254	9
52	8.52408	8.52785	8.53158	8.53529	8.53896	8.54260	8
53	8.52414	8.52791	8.53165	8.53535	8.53902	8.54266	7
54	8.52421	8.52797	8.53171	8.53541	8.53908	8.54272	6
55	8.52427	8.52804	8.53177	8.53547	8.53914	8.54278	5
56	8.52433	8.52810	8.53183	8.53553	8.53920	8.54284	4
57	8.52440	8.52816	8.53189	8.53559	8.53926	8.54290	3
58	8.52446	8.52822	8.53196	8.53566	8.53932	8.54296	2
59	8.52452	8.52829	8.53202	8.53572	8.53939	8.54302	1
60	8.52459	8.52835	8.53208	8.53578	8.53945	8.54308	0
"	5'	4'	3'	2'	1'	0'	"

2°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	8.54282	8.54308	0	60	5	0	8.56054	8.56083	0	55
	10	8.54342	8.54369	50			10	8.56112	8.56141	50	
	20	8.54402	8.54429	40			20	8.56170	8.56199	40	
	30	8.54462	8.54489	30			30	8.56227	8.56256	30	
	40	8.54522	8.54549	20			40	8.56285	8.56314	20	
	50	8.54582	8.54609	10			50	8.56342	8.56372	10	
1	0	8.54642	8.54669	0	59	6	0	8.56400	8.56429	0	54
	10	8.54702	8.54729	50			10	8.56457	8.56487	50	
	20	8.54762	8.54789	40			20	8.56515	8.56544	40	
	30	8.54821	8.54848	30			30	8.56572	8.56601	30	
	40	8.54881	8.54908	20			40	8.56629	8.56659	20	
	50	8.54940	8.54967	10			50	8.56686	8.56716	10	
2	0	8.54999	8.55027	0	58	7	0	8.56743	8.56773	0	53
	10	8.55059	8.55086	50			10	8.56800	8.56830	50	
	20	8.55118	8.55145	40			20	8.56857	8.56887	40	
	30	8.55177	8.55205	30			30	8.56914	8.56944	30	
	40	8.55236	8.55264	20			40	8.56970	8.57000	20	
	50	8.55295	8.55323	10			50	8.57027	8.57057	10	
3	0	8.55354	8.55382	0	57	8	0	8.57084	8.57114	0	52
	10	8.55413	8.55441	50			10	8.57140	8.57170	50	
	20	8.55471	8.55499	40			20	8.57196	8.57227	40	
	30	8.55530	8.55558	30			30	8.57253	8.57283	30	
	40	8.55589	8.55617	20			40	8.57309	8.57340	20	
	50	8.55647	8.55675	10			50	8.57365	8.57396	10	
4	0	8.55705	8.55734	0	56	9	0	8.57421	8.57452	0	51
	10	8.55764	8.55792	50			10	8.57477	8.57508	50	
	20	8.55822	8.55850	40			20	8.57533	8.57564	40	
	30	8.55880	8.55909	30			30	8.57589	8.57620	30	
	40	8.55938	8.55967	20			40	8.57645	8.57676	20	
	50	8.55996	8.56025	10			50	8.57701	8.57732	10	
5	0	8.56054	8.56083	0	55	10	0	8.57757	8.57788	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

87°

2°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	8.57757	8.57788	0	50	15	0	8.59395	8.59428	0	45
	10	8.57812	8.57843	50			10	8.59448	8.59482	50	
	20	8.57868	8.57899	40			20	8.59502	8.59536	40	
	30	8.57923	8.57955	30			30	8.59555	8.59589	30	
	40	8.57979	8.58010	20			40	8.59609	8.59642	20	
	50	8.58034	8.58065	10			50	8.59662	8.59696	10	
11	0	8.58089	8.58121	0	49	16	0	8.59715	8.59749	0	44
	10	8.58144	8.58176	50			10	8.59768	8.59802	50	
	20	8.58200	8.58231	40			20	8.59821	8.59856	40	
	30	8.58255	8.58286	30			30	8.59874	8.59909	30	
	40	8.58310	8.58341	20			40	8.59927	8.59962	20	
	50	8.58364	8.58396	10			50	8.59980	8.60015	10	
12	0	8.58419	8.58451	0	48	17	0	8.60033	8.60068	0	43
	10	8.58474	8.58506	50			10	8.60086	8.60121	50	
	20	8.58529	8.58561	40			20	8.60139	8.60173	40	
	30	8.58583	8.58616	30			30	8.60191	8.60226	30	
	40	8.58638	8.58670	20			40	8.60244	8.60279	20	
	50	8.58693	8.58725	10			50	8.60296	8.60331	10	
13	0	8.58747	8.58779	0	47	18	0	8.60349	8.60384	0	42
	10	8.58801	8.58834	50			10	8.60401	8.60436	50	
	20	8.58856	8.58888	40			20	8.60454	8.60489	40	
	30	8.58910	8.58943	30			30	8.60506	8.60541	30	
	40	8.58964	8.58997	20			40	8.60558	8.60593	20	
	50	8.59018	8.59051	10			50	8.60610	8.60646	10	
14	0	8.59072	8.59105	0	46	19	0	8.60662	8.60698	0	41
	10	8.59126	8.59159	50			10	8.60714	8.60750	50	
	20	8.59180	8.59213	40			20	8.60766	8.60802	40	
	30	8.59234	8.59267	30			30	8.60818	8.60854	30	
	40	8.59288	8.59321	20			40	8.60870	8.60906	20	
	50	8.59341	8.59375	10			50	8.60922	8.60958	10	
15	0	8.59395	8.59428	0	45	20	0	8.60973	8.61009	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

87°

2⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
20	0	8.60973	8.61009	0	40	25	0	8.62497	8.62535	0	35
	10	8.61025	8.61061	50			10	8.62546	8.62585	50	
	20	8.61077	8.61113	40			20	8.62596	8.62635	40	
	30	8.61128	8.61164	30			30	8.62646	8.62685	30	
	40	8.61180	8.61216	20			40	8.62696	8.62735	20	
	50	8.61231	8.61267	10			50	8.62745	8.62784	10	
21	0	8.61282	8.61319	0	39	26	0	8.62795	8.62834	0	34
	10	8.61334	8.61370	50			10	8.62844	8.62884	50	
	20	8.61385	8.61422	40			20	8.62894	8.62933	40	
	30	8.61436	8.61473	30			30	8.62943	8.62983	30	
	40	8.61487	8.61524	20			40	8.62993	8.63032	20	
	50	8.61538	8.61575	10			50	8.63042	8.63081	10	
22	0	8.61589	8.61626	0	38	27	0	8.63091	8.63131	0	33
	10	8.61640	8.61677	50			10	8.63140	8.63180	50	
	20	8.61691	8.61728	40			20	8.63189	8.63229	40	
	30	8.61742	8.61779	30			30	8.63238	8.63278	30	
	40	8.61792	8.61830	20			40	8.63288	8.63328	20	
	50	8.61843	8.61881	10			50	8.63336	8.63377	10	
23	0	8.61894	8.61931	0	37	28	0	8.63385	8.63426	0	32
	10	8.61944	8.61982	50			10	8.63434	8.63475	50	
	20	8.61995	8.62083	40			20	8.63483	8.63523	40	
	30	8.62045	8.62083	30			30	8.63532	8.63572	30	
	40	8.62096	8.62134	20			40	8.63580	8.63621	20	
	50	8.62146	8.62184	10			50	8.63629	8.63670	10	
24	0	8.62196	8.62234	0	36	29	0	8.63678	8.63718	0	31
	10	8.62246	8.62285	50			10	8.63726	8.63767	50	
	20	8.62297	8.62335	40			20	8.63775	8.63816	40	
	30	8.62347	8.62385	30			30	8.63823	8.63864	30	
	40	8.62397	8.62435	20			40	8.63871	8.63913	20	
	50	8.62447	8.62485	10			50	8.63920	8.63961	10	
25	0	8.62497	8.62535	0	35	30	0	8.63968	8.64009	0	30
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

87⁰

2°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	8.63968	8.64009	0	30	35	0	8.65391	8.65435	0	25
	10	8.64016	8.64058	50			10	8.65438	8.65482	50	
	20	8.64064	8.64106	40			20	8.65484	8.65529	40	
	30	8.64112	8.64154	30			30	8.65531	8.65575	30	
	40	8.64160	8.64202	20			40	8.65577	8.65622	20	
	50	8.64208	8.64250	10			50	8.65624	8.65668	10	
31	0	8.64256	8.64298	0	29	36	0	8.65670	8.65715	0	24
	10	8.64304	8.64346	50			10	8.65717	8.65761	50	
	20	8.64352	8.64394	40			20	8.65763	8.65808	40	
	30	8.64400	8.64442	30			30	8.65809	8.65854	30	
	40	8.64448	8.64490	20			40	8.65855	8.65900	20	
	50	8.64495	8.64538	10			50	8.65901	8.65947	10	
32	0	8.64543	8.64585	0	28	37	0	8.65947	8.65993	0	23
	10	8.64590	8.64633	50			10	8.65994	8.66039	50	
	20	8.64638	8.64681	40			20	8.66040	8.66085	40	
	30	8.64685	8.64728	30			30	8.66085	8.66131	30	
	40	8.64733	8.64776	20			40	8.66131	8.66177	20	
	50	8.64780	8.64823	10			50	8.66177	8.66223	10	
33	0	8.64827	8.64870	0	27	38	0	8.66223	8.66269	0	22
	10	8.64875	8.64918	50			10	8.66269	8.66315	50	
	20	8.64922	8.64965	40			20	8.66314	8.66361	40	
	30	8.64969	8.65012	30			30	8.66360	8.66406	30	
	40	8.65016	8.65060	20			40	8.66406	8.66452	20	
	50	8.65063	8.65107	10			50	8.66451	8.66498	10	
34	0	8.65110	8.65154	0	26	39	0	8.66497	8.66543	0	21
	10	8.65157	8.65201	50			10	8.66542	8.66589	50	
	20	8.65204	8.65248	40			20	8.66588	8.66634	40	
	30	8.65251	8.65295	30			30	8.66633	8.66680	30	
	40	8.65298	8.65342	20			40	8.66678	8.66725	20	
	50	8.65344	8.65388	10			50	8.66724	8.66771	10	
35	0	8.65391	8.65435	0	25	40	0	8.66769	8.66816	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

87°

2°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	8.66769	8.66816	0	20	45	0	8.68104	8.68154	0	15
	10	8.66814	8.66861	50			10	8.68148	8.68198	50	
	20	8.66859	8.66906	40			20	8.68192	8.68242	40	
	30	8.66904	8.66952	30			30	8.68236	8.68286	30	
	40	8.66949	8.66997	20			40	8.68279	8.68330	20	
	50	8.66994	8.67042	10			50	8.68323	8.68373	10	
41	0	8.67039	8.67087	0	19	46	0	8.68367	8.68417	0	14
	10	8.67084	8.67132	50			10	8.68410	8.68461	50	
	20	8.67129	8.67177	40			20	8.68454	8.68504	40	
	30	8.67174	8.67222	30			30	8.68497	8.68548	30	
	40	8.67219	8.67267	20			40	8.68540	8.68592	20	
	50	8.67263	8.67312	10			50	8.68584	8.68635	10	
42	0	8.67308	8.67356	0	18	47	0	8.68627	8.68678	0	13
	10	8.67353	8.67401	50			10	8.68670	8.68722	50	
	20	8.67397	8.67446	40			20	8.68714	8.68765	40	
	30	8.67442	8.67490	30			30	8.68757	8.68808	30	
	40	8.67486	8.67535	20			40	8.68800	8.68852	20	
	50	8.67531	8.67579	10			50	8.68843	8.68895	10	
43	0	8.67575	8.67624	0	17	48	0	8.68886	8.68938	0	12
	10	8.67619	8.67668	50			10	8.68929	8.68981	50	
	20	8.67664	8.67713	40			20	8.68972	8.69024	40	
	30	8.67708	8.67757	30			30	8.69015	8.69067	30	
	40	8.67752	8.67801	20			40	8.69058	8.69110	20	
	50	8.67796	8.67846	10			50	8.69101	8.69153	10	
44	0	8.67841	8.67890	0	16	49	0	8.69144	8.69196	0	11
	10	8.67885	8.67934	50			10	8.69187	8.69239	50	
	20	8.67929	8.67978	40			20	8.69229	8.69282	40	
	30	8.67973	8.68022	30			30	8.69272	8.69325	30	
	40	8.68017	8.68066	20			40	8.69315	8.69368	20	
	50	8.68060	8.68110	10			50	8.69357	8.69410	10	
45	0	8.68104	8.68154	0	15	50	0	8.69400	8.69453	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

87°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	8.69400	8.69453	0	10	55	0	8.70658	8.70714	0	5
	10	8.69442	8.69496	50			10	8.70699	8.70755	50	
	20	8.69485	8.69538	40			20	8.70740	8.70797	40	
	30	8.69527	8.69581	30			30	8.70781	8.70838	30	
	40	8.69570	8.69623	20			40	8.70823	8.70879	20	
	50	8.69612	8.69666	10			50	8.70864	8.70921	10	
51	0	8.69654	8.69708	0	9	56	0	8.70905	8.70962	0	4
	10	8.69697	8.69750	50			10	8.70946	8.71003	50	
	20	8.69739	8.69793	40			20	8.70987	8.71044	40	
	30	8.69781	8.69835	30			30	8.71028	8.71085	30	
	40	8.69823	8.69877	20			40	8.71069	8.71126	20	
	50	8.69865	8.69920	10			50	8.71110	8.71167	10	
52	0	8.69907	8.69962	0	8	57	0	8.71151	8.71208	0	3
	10	8.69949	8.70004	50			10	8.71192	8.71249	50	
	20	8.69991	8.70046	40			20	8.71232	8.71290	40	
	30	8.70033	8.70088	30			30	8.71273	8.71331	30	
	40	8.70075	8.70130	20			40	8.71314	8.71372	20	
	50	8.70117	8.70172	10			50	8.71355	8.71413	10	
53	0	8.70159	8.70214	0	7	58	0	8.71396	8.71453	0	2
	10	8.70201	8.70256	50			10	8.71436	8.71494	50	
	20	8.70242	8.70298	40			20	8.71476	8.71535	40	
	30	8.70284	8.70339	30			30	8.71517	8.71575	30	
	40	8.70326	8.70381	20			40	8.71557	8.71616	20	
	50	8.70367	8.70423	10			50	8.71598	8.71657	10	
54	0	8.70409	8.70465	0	6	59	0	8.71638	8.71697	0	1
	10	8.70451	8.70506	50			10	8.71679	8.71738	50	
	20	8.70492	8.70548	40			20	8.71719	8.71778	40	
	30	8.70534	8.70589	30			30	8.71759	8.71819	30	
	40	8.70575	8.70631	20			40	8.71800	8.71859	20	
	50	8.70616	8.70673	10			50	8.71840	8.71899	10	
55	0	8.70658	8.70714	0	5	60	0	8.71880	8.71940	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

3⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	8.71880	8.71940	0	60	5	0	8.73069	8.73132	0	55
	10	8.71920	8.71980	50			10	8.73108	8.73171	50	
	20	8.71960	8.72020	40			20	8.73147	8.73210	40	
	30	8.72000	8.72060	30			30	8.73186	8.73249	30	
	40	8.72040	8.72100	20			40	8.73225	8.73288	20	
	50	8.72080	8.72141	10			50	8.73264	8.73327	10	
1	0	8.72120	8.72181	0	59	6	0	8.73303	8.73366	0	54
	10	8.72160	8.72221	50			10	8.73342	8.73405	50	
	20	8.72200	8.72261	40			20	8.73380	8.73444	40	
	30	8.72240	8.72301	30			30	8.73419	8.73483	30	
	40	8.72280	8.72341	20			40	8.73458	8.73522	20	
	50	8.72320	8.72380	10			50	8.73497	8.73561	10	
2	0	8.72359	8.72420	0	58	7	0	8.73535	8.73600	0	53
	10	8.72399	8.72460	50			10	8.73574	8.73638	50	
	20	8.72439	8.72500	40			20	8.73612	8.73677	40	
	30	8.72478	8.72540	30			30	8.73651	8.73716	30	
	40	8.72518	8.72579	20			40	8.73690	8.73754	20	
	50	8.72558	8.72619	10			50	8.73728	8.73793	10	
3	0	8.72597	8.72659	0	57	8	0	8.73767	8.73832	0	52
	10	8.72637	8.72698	50			10	8.73805	8.73870	50	
	20	8.72676	8.72738	40			20	8.73844	8.73909	40	
	30	8.72716	8.72777	30			30	8.73882	8.73947	30	
	40	8.72755	8.72817	20			40	8.73920	8.73986	20	
	50	8.72794	8.72856	10			50	8.73959	8.74024	10	
4	0	8.72834	8.72896	0	56	9	0	8.73997	8.74063	0	51
	10	8.72873	8.72935	50			10	8.74035	8.74101	50	
	20	8.72912	8.72975	40			20	8.74073	8.74139	40	
	30	8.72951	8.73014	30			30	8.74112	8.74178	30	
	40	8.72991	8.73053	20			40	8.74150	8.74216	20	
	50	8.73030	8.73093	10			50	8.74188	8.74254	10	
5	0	8.73069	8.73132	0	55	10	0	8.74226	8.74292	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

86⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	8.74226	8.74292	0	50	15	0	8.75353	8.75423	0	45
	10	8.74264	8.74330	50			10	8.75390	8.75460	50	
	20	8.74302	8.74369	40			20	8.75427	8.75497	40	
	30	8.74340	8.74407	30			30	8.75464	8.75534	30	
	40	8.74378	8.74445	20			40	8.75501	8.75571	20	
	50	8.74416	8.74483	10			50	8.75538	8.75608	10	
11	0	8.74454	8.74521	0	49	16	0	8.75575	8.75645	0	44
	10	8.74491	8.74559	50			10	8.75612	8.75682	50	
	20	8.74529	8.74597	40			20	8.75648	8.75719	40	
	30	8.74567	8.74634	30			30	8.75685	8.75756	30	
	40	8.74605	8.74672	20			40	8.75722	8.75793	20	
	50	8.74642	8.74710	10			50	8.75759	8.75830	10	
12	0	8.74680	8.74748	0	48	17	0	8.75795	8.75867	0	43
	10	8.74718	8.74786	50			10	8.75832	8.75904	50	
	20	8.74755	8.74823	40			20	8.75869	8.75940	40	
	30	8.74793	8.74861	30			30	8.75905	8.75977	30	
	40	8.74831	8.74899	20			40	8.75942	8.76014	20	
	50	8.74868	8.74936	10			50	8.75979	8.76051	10	
13	0	8.74906	8.74974	0	47	18	0	8.76015	8.76087	0	42
	10	8.74943	8.75012	50			10	8.76052	8.76124	50	
	20	8.74980	8.75049	40			20	8.76088	8.76160	40	
	30	8.75018	8.75087	30			30	8.76125	8.76197	30	
	40	8.75055	8.75124	20			40	8.76161	8.76233	20	
	50	8.75092	8.75162	10			50	8.76197	8.76270	10	
14	0	8.75130	8.75199	0	46	19	0	8.76234	8.76306	0	41
	10	8.75167	8.75236	50			10	8.76270	8.76343	50	
	20	8.75204	8.75274	40			20	8.76306	8.76379	40	
	30	8.75241	8.75311	30			30	8.76343	8.76416	30	
	40	8.75279	8.75348	20			40	8.76379	8.76452	20	
	50	8.75316	8.75385	10			50	8.76415	8.76488	10	
15	0	8.75353	8.75423	0	45	20	0	8.76451	8.76525	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

3°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
20	0	8.76451	8.76525	0	40	25	0	8.77522	8.77600	0	35
	10	8.76487	8.76561	50			10	8.77558	8.77635	50	
	20	8.76523	8.76597	40			20	8.77593	8.77670	40	
	30	8.76559	8.76633	30			30	8.77628	8.77706	30	
	40	8.76595	8.76669	20			40	8.77663	8.77741	20	
	50	8.76631	8.76706	10			50	8.77698	8.77776	10	
21	0	8.76667	8.76742	0	39	26	0	8.77733	8.77811	0	34
	10	8.76703	8.76778	50			10	8.77768	8.77847	50	
	20	8.76739	8.76814	40			20	8.77803	8.77882	40	
	30	8.76775	8.76850	30			30	8.77838	8.77917	30	
	40	8.76811	8.76886	20			40	8.77873	8.77952	20	
	50	8.76847	8.76922	10			50	8.77908	8.77987	10	
22	0	8.76883	8.76958	0	38	27	0	8.77943	8.78022	0	33
	10	8.76919	8.76994	50			10	8.77978	8.78057	50	
	20	8.76954	8.77030	40			20	8.78013	8.78092	40	
	30	8.76990	8.77065	30			30	8.78048	8.78127	30	
	40	8.77026	8.77101	20			40	8.78083	8.78162	20	
	50	8.77061	8.77137	10			50	8.78118	8.78197	10	
23	0	8.77097	8.77173	0	37	28	0	8.78152	8.78232	0	32
	10	8.77133	8.77208	50			10	8.78187	8.78267	50	
	20	8.77168	8.77244	40			20	8.78222	8.78302	40	
	30	8.77204	8.77280	30			30	8.78257	8.78337	30	
	40	8.77239	8.77315	20			40	8.78291	8.78371	20	
	50	8.77275	8.77351	10			50	8.78326	8.78406	10	
24	0	8.77310	8.77387	0	36	29	0	8.78360	8.78441	0	31
	10	8.77346	8.77422	50			10	8.78395	8.78475	50	
	20	8.77381	8.77458	40			20	8.78430	8.78510	40	
	30	8.77416	8.77493	30			30	8.78464	8.78545	30	
	40	8.77452	8.77529	20			40	8.78499	8.78579	20	
	50	8.77487	8.77564	10			50	8.78533	8.78614	10	
25	0	8.77522	8.77600	0	35	30	0	8.78568	8.78649	0	30
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

86°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	8.78568	8.78649	0	30	35	0	8.79588	8.79673	0	25
	10	8.78602	8.78683	50			10	8.79622	8.79707	50	
	20	8.78636	8.78718	40			20	8.79655	8.79741	40	
	30	8.78671	8.78752	30			30	8.79689	8.79774	30	
	40	8.78705	8.78787	20			40	8.79722	8.79808	20	
	50	8.78739	8.78821	10			50	8.79756	8.79842	10	
31	0	8.78774	8.78855	0	29	36	0	8.79789	8.79875	0	24
	10	8.78808	8.78890	50			10	8.79823	8.79909	50	
	20	8.78842	8.78924	40			20	8.79856	8.79942	40	
	30	8.78876	8.78958	30			30	8.79890	8.79976	30	
	40	8.78910	8.78993	20			40	8.79923	8.80009	20	
	50	8.78945	8.79027	10			50	8.79956	8.80042	10	
32	0	8.78979	8.79061	0	28	37	0	8.79990	8.80076	0	23
	10	8.79013	8.79096	50			10	8.80023	8.80110	50	
	20	8.79047	8.79130	40			20	8.80056	8.80143	40	
	30	8.79081	8.79164	30			30	8.80090	8.80177	30	
	40	8.79115	8.79198	20			40	8.80123	8.80210	20	
	50	8.79149	8.79232	10			50	8.80156	8.80243	10	
33	0	8.79183	8.79266	0	27	38	0	8.80189	8.80277	0	22
	10	8.79217	8.79300	50			10	8.80222	8.80310	50	
	20	8.79251	8.79334	40			20	8.80255	8.80343	40	
	30	8.79284	8.79368	30			30	8.80289	8.80376	30	
	40	8.79318	8.79402	20			40	8.80322	8.80409	20	
	50	8.79352	8.79436	10			50	8.80355	8.80443	10	
34	0	8.79386	8.79470	0	26	39	0	8.80388	8.80476	0	21
	10	8.79420	8.79504	50			10	8.80421	8.80509	50	
	20	8.79453	8.79538	49			20	8.80454	8.80542	40	
	30	8.79487	8.79572	30			30	8.80487	8.80575	30	
	40	8.79521	8.79606	20			40	8.80519	8.80608	20	
	50	8.79555	8.79639	10			50	8.80552	8.80641	10	
35	0	8.79588	8.79673	0	25	40	0	8.80585	8.80674	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

3°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	8.80585	8.80674	0	20	45	0	8.81560	8.81653	0	15
	10	8.80618	8.80707	50			10	8.81592	8.81685	50	
	20	8.80651	8.80740	40			20	8.81624	8.81717	40	
	30	8.80684	8.80773	30			30	8.81656	8.81750	30	
	40	8.80716	8.80806	20			40	8.81688	8.81782	20	
	50	8.80749	8.80839	10			50	8.81720	8.81814	10	
41	0	8.80782	8.80872	0	19	46	0	8.81752	8.81846	0	14
	10	8.80815	8.80905	50			10	8.81784	8.81878	50	
	20	8.80847	8.80937	40			20	8.81816	8.81910	40	
	30	8.80880	8.80970	30			30	8.81848	8.81942	30	
	40	8.80913	8.81003	20			40	8.81880	8.81974	20	
	50	8.80945	8.81036	10			50	8.81912	8.82006	10	
42	0	8.80978	8.81068	0	18	47	0	8.81944	8.82038	0	13
	10	8.81010	8.81101	50			10	8.81975	8.82070	50	
	20	8.81043	8.81134	40			20	8.82007	8.82102	40	
	30	8.81075	8.81166	30			30	8.82039	8.82134	30	
	40	8.81108	8.81199	20			40	8.82071	8.82166	20	
	50	8.81140	8.81232	10			50	8.82103	8.82198	10	
43	0	8.81173	8.81264	0	17	48	0	8.82134	8.82230	0	12
	10	8.81205	8.81297	50			10	8.82166	8.82262	50	
	20	8.81237	8.81329	40			20	8.82198	8.82293	40	
	30	8.81270	8.81362	30			30	8.82229	8.82325	30	
	40	8.81302	8.81394	20			40	8.82261	8.82357	20	
	50	8.81334	8.81427	10			40	8.82292	8.82389	10	
44	0	8.81367	8.81459	0	16	49	0	8.82324	8.82420	0	11
	10	8.81399	8.81491	50			10	8.82356	8.82452	50	
	20	8.81431	8.81524	40			20	8.82387	8.82484	40	
	30	8.81463	8.81556	30			30	8.82419	8.82515	30	
	40	8.81496	8.81588	20			40	8.82450	8.82547	20	
	50	8.81528	8.81621	10			50	8.82482	8.82579	10	
45	0	8.81560	8.81653	0	15	50	0	8.82513	8.82610	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

86°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	8.82513	8.82610	0	10	55	0	8.83446	8.83547	0	5
	10	8.82544	8.82642	50			10	8.83476	8.83578	50	
	20	8.82576	8.82673	40			20	8.83507	8.83609	40	
	30	8.82607	8.82705	30			30	8.83538	8.83640	30	
	40	8.82639	8.82736	20			40	8.83568	8.83671	20	
	50	8.82670	8.82768	10			50	8.83599	8.83701	10	
51	0	8.82701	8.82799	0	9	56	0	8.83630	8.83732	0	4
	10	8.82732	8.82831	50			10	8.83660	8.83763	50	
	20	8.82764	8.82862	40			20	8.83691	8.83794	40	
	30	8.82795	8.82893	30			30	8.83721	8.83824	30	
	40	8.82826	8.82925	20			40	8.83752	8.83855	20	
	50	8.82857	8.82956	10			50	8.83783	8.83886	10	
52	0	8.82888	8.82987	0	8	57	0	8.83813	8.83916	0	3
	10	8.82920	8.83019	50			10	8.83844	8.83947	50	
	20	8.82951	8.83050	40			20	8.83874	8.83978	40	
	30	8.82982	8.83081	30			30	8.83904	8.84008	30	
	40	8.83013	8.83112	20			40	8.83935	8.84039	20	
	50	8.83044	8.83144	10			50	8.83965	8.84069	10	
53	0	8.83075	8.83175	0	7	58	0	8.83996	8.84100	0	2
	10	8.83106	8.83206	50			10	8.84026	8.84130	50	
	20	8.83137	8.83237	40			20	8.84056	8.84161	40	
	30	8.83168	8.83268	30			30	8.84087	8.84191	30	
	40	8.83199	8.83299	20			40	8.84117	8.84222	20	
	50	8.83230	8.83330	10			50	8.84147	8.84252	10	
54	0	8.83261	8.83361	0	6	59	0	8.84177	8.84282	0	1
	10	8.83292	8.83392	50			10	8.84208	8.84313	50	
	20	8.83322	8.83423	40			20	8.84238	8.84343	40	
	30	8.83353	8.83454	30			30	8.84268	8.84374	30	
	40	8.83384	8.83485	20			40	8.84298	8.84404	20	
	50	8.83415	8.83516	10			50	8.84328	8.84434	10	
55	0	8.83446	8.83547	0	5	60	0	8.84358	8.84464	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

4°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	8.84358	8.84464	0	60	5	0	8.85252	8.85363	0	55
	10	8.84389	8.84495	50			10	8.85282	8.85392	50	
	20	8.84419	8.84525	40			20	8.85311	8.85422	40	
	30	8.84449	8.84555	30			30	8.85341	8.85452	30	
	40	8.84479	8.84585	20			40	8.85370	8.85481	20	
	50	8.84509	8.84615	10			50	8.85400	8.85511	10	
1	0	8.84539	8.84646	0	59	6	0	8.85429	8.85540	0	54
	10	8.84569	8.84676	50			10	8.85458	8.85570	50	
	20	8.84599	8.84706	40			20	8.85488	8.85599	40	
	30	8.84629	8.84736	30			30	8.85517	8.85629	30	
	40	8.84659	8.84766	20			40	8.85546	8.85658	20	
	50	8.84688	8.84796	10			50	8.85576	8.85688	10	
2	0	8.84718	8.84826	0	58	7	0	8.85605	8.85717	0	53
	10	8.84748	8.84856	50			10	8.85634	8.85747	50	
	20	8.84778	8.84886	40			20	8.85663	8.85776	40	
	30	8.84808	8.84916	30			30	8.85693	8.85805	30	
	40	8.84838	8.84946	20			40	8.85722	8.85835	20	
	50	8.84877	8.84976	10			50	8.85751	8.85864	10	
3	0	8.84897	8.85006	0	57	8	0	8.85780	8.85893	0	52
	10	8.84927	8.85036	50			10	8.85809	8.85922	50	
	20	8.84957	8.85065	40			20	8.85838	8.85952	40	
	30	8.84986	8.85095	30			30	8.85867	8.85981	30	
	40	8.85016	8.85125	20			40	8.85896	8.86010	20	
	50	8.85045	8.85155	10			50	8.85926	8.86039	10	
4	0	8.85075	8.85185	0	56	9	0	8.85955	8.86069	0	51
	10	8.85105	8.85214	50			10	8.85984	8.86098	50	
	20	8.85134	8.85244	40			20	8.86013	8.86127	40	
	30	8.85164	8.85274	30			30	8.86042	8.86156	30	
	40	8.85193	8.85304	20			40	8.86070	8.86185	20	
	50	8.85223	8.85333	10			50	8.86099	8.86214	10	
5	0	8.85252	8.85363	0	55	10	0	8.86128	8.86243	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

85°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	8.86128	8.86243	0	50	15	0	8.86987	8.87106	0	45
	10	8.86157	8.86272	50			10	8.87015	8.87135	50	
	20	8.86186	8.86301	40			20	8.87043	8.87163	40	
	30	8.86215	8.86330	30			30	8.87072	8.87192	30	
	40	8.86244	8.86359	20			40	8.87100	8.87220	20	
	50	8.86273	8.86388	10			50	8.87128	8.87249	10	
11	0	8.86301	8.86417	0	49	16	0	8.87156	8.87277	0	44
	10	8.86330	8.86446	50			10	8.87185	8.87305	50	
	20	8.86359	8.86475	40			20	8.87213	8.87334	40	
	30	8.86388	8.86504	30			30	8.87241	8.87362	30	
	40	8.86416	8.86533	20			40	8.87269	8.87390	20	
	50	8.86445	8.86562	10			50	8.87297	8.87419	10	
12	0	8.86474	8.86591	0	48	17	0	8.87325	8.87447	0	43
	10	8.86502	8.86619	50			10	8.87354	8.87475	50	
	20	8.86531	8.86648	40			20	8.87382	8.87503	40	
	30	8.86560	8.86677	30			30	8.87410	8.87532	30	
	40	8.86588	8.86706	20			40	8.87438	8.87560	20	
	50	8.86617	8.86734	10			50	8.87466	8.87588	10	
13	0	8.86645	8.86763	0	47	18	0	8.87494	8.87616	0	42
	10	8.86674	8.86792	50			10	8.87522	8.87644	50	
	20	8.86703	8.86821	40			20	8.87550	8.87673	40	
	30	8.86731	8.86849	30			30	8.87578	8.87701	30	
	40	8.86760	8.86878	20			40	8.87606	8.87729	20	
	50	8.86788	8.86907	10			50	8.87634	8.87757	10	
14	0	8.86816	8.86935	0	46	19	0	8.87661	8.87785	0	41
	10	8.86845	8.86964	50			10	8.87689	8.87813	50	
	20	8.86873	8.86992	40			20	8.87717	8.87841	40	
	30	8.86902	8.87021	30			30	8.87745	8.87869	30	
	40	8.86930	8.87049	20			40	8.87773	8.87897	20	
	50	8.86958	8.87078	10			50	8.87801	8.87925	10	
15	0	8.86987	8.87106	0	45	20	0	8.87829	8.87953	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

4⁰

′	″	sin	tang	″	′
20	0	8.87829	8.87958	0	40
	10	8.87856	8.87981	50	
	20	8.87884	8.88009	40	
	30	8.87912	8.88037	30	
	40	8.87940	8.88065	20	
	50	8.87967	8.88092	10	
21	0	8.87995	8.88120	0	39
	10	8.88023	8.88148	50	
	20	8.88050	8.88176	40	
	30	8.88078	8.88204	30	
	40	8.88106	8.88231	20	
	50	8.88133	8.88259	10	
22	0	8.88161	8.88287	0	38
	10	8.88188	8.88315	50	
	20	8.88216	8.88342	40	
	30	8.88243	8.88370	30	
	40	8.88271	8.88398	20	
	50	8.88298	8.88425	10	
23	0	8.88326	8.88453	0	37
	10	8.88353	8.88481	50	
	20	8.88381	8.88508	40	
	30	8.88408	8.88536	30	
	40	8.88436	8.88563	20	
	50	8.88463	8.88591	10	
24	0	8.88490	8.88618	0	36
	10	8.88518	8.88646	50	
	20	8.88545	8.88674	40	
	30	8.88572	8.88701	30	
	40	8.88600	8.88728	20	
	50	8.88627	8.88756	10	
25	0	8.88654	8.88783	0	35
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
25	0	8.88654	8.88783	0	35
	10	8.88681	8.88811	50	
	20	8.88709	8.88838	40	
	30	8.88736	8.88866	30	
	40	8.88763	8.88893	20	
	50	8.88790	8.88920	10	
26	0	8.88817	8.88948	0	34
	10	8.88845	8.88975	50	
	20	8.88872	8.89002	40	
	30	8.88899	8.89029	30	
	40	8.88926	8.89057	20	
	50	8.88953	8.89084	10	
27	0	8.88980	8.89111	0	33
	10	8.89007	8.89138	50	
	20	8.89034	8.89166	40	
	30	8.89061	8.89193	30	
	40	8.89088	8.89220	20	
	50	8.89115	8.89247	10	
28	0	8.89142	8.89274	0	32
	10	8.89169	8.89301	50	
	20	8.89196	8.89328	40	
	30	8.89223	8.89355	30	
	40	8.89250	8.89383	20	
	50	8.89277	8.89410	10	
29	0	8.89304	8.89437	0	31
	10	8.89330	8.89464	50	
	20	8.89357	8.89491	40	
	30	8.89384	8.89518	30	
	40	8.89411	8.89545	20	
	50	8.89438	8.89571	10	
30	0	8.89464	8.89598	0	30
′	″	cos	cotg	″	′

85⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	8.89464	8.89598	0	30	35	0	8.90260	8.90399	0	25
	10	8.89491	8.89625	50			10	8.90286	8.90425	50	
	20	8.89518	8.89652	40			20	8.90312	8.90451	40	
	30	8.89545	8.89679	30			30	8.90338	8.90478	30	
	40	8.89571	8.89706	20			40	8.90364	8.90504	20	
	50	8.89598	8.89733	10			50	8.90391	8.90531	10	
31	0	8.89625	8.89760	0	29	36	0	8.90417	8.90557	0	24
	10	8.89651	8.89786	50			10	8.90443	8.90583	50	
	20	8.89678	8.89813	40			20	8.90469	8.90610	40	
	30	8.89704	8.89840	30			30	8.90495	8.90636	30	
	40	8.89731	8.89867	20			40	8.90521	8.90662	20	
	50	8.89758	8.89894	10			50	8.90548	8.90688	10	
32	0	8.89784	8.89920	0	28	37	0	8.90574	8.90715	0	23
	10	8.89811	8.89947	50			10	8.90600	8.90741	50	
	20	8.89837	8.89974	40			20	8.90626	8.90767	40	
	30	8.89864	8.90000	30			30	8.90652	8.90793	30	
	40	8.89890	8.90027	20			40	8.90678	8.90820	20	
	50	8.89917	8.90054	10			50	8.90704	8.90846	10	
33	0	8.89943	8.90080	0	27	38	0	8.90730	8.90872	0	22
	10	8.89970	8.90107	50			10	8.90756	8.90898	50	
	20	8.89996	8.90134	40			20	8.90782	8.90924	40	
	30	8.90023	8.90160	30			30	8.90808	8.90950	30	
	40	8.90049	8.90187	20			40	8.90834	8.90976	20	
	50	8.90075	8.90213	10			50	8.90859	8.91002	10	
34	0	8.90102	8.90240	0	26	39	0	8.90885	8.91029	0	21
	10	8.90128	8.90266	50			10	8.90911	8.91055	50	
	20	8.90154	8.90293	40			20	8.90937	8.91081	40	
	30	8.90181	8.90319	30			30	8.90963	8.91107	30	
	40	8.90207	8.90346	20			40	8.90989	8.91133	20	
	50	8.90233	8.90372	10			50	8.91015	8.91159	10	
35	0	8.90260	8.90399	0	25	40	0	8.91040	8.91185	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

4°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	8.91040	8.91185	0	20	45	0	8.91807	8.91957	0	15
	10	8.91066	8.91211	50			10	8.91833	8.91982	50	
	20	8.91092	8.91236	40			20	8.91858	8.92008	40	
	30	8.91118	8.91262	30			30	8.91883	8.92033	30	
	40	8.91143	8.91288	20			40	8.91909	8.92059	20	
	50	8.91169	8.91314	10			50	8.91934	8.92084	10	
41	0	8.91195	8.91340	0	19	46	0	8.91959	8.92110	0	14
	10	8.91221	8.91366	50			10	8.91984	8.92135	50	
	20	8.91246	8.91392	40			20	8.92010	8.92160	40	
	30	8.91272	8.91418	30			30	8.92035	8.92186	30	
	40	8.91298	8.91443	20			40	8.92060	8.92211	20	
	50	8.91323	8.91469	10			50	8.92085	8.92237	10	
42	0	8.91349	8.91495	0	18	47	0	8.92110	8.92262	0	13
	10	8.91374	8.91521	50			10	8.92135	8.92287	50	
	20	8.91400	8.91547	40			20	8.92161	8.92313	40	
	30	8.91426	8.91572	30			30	8.92186	8.92338	30	
	40	8.91451	8.91598	20			40	8.92211	8.92363	20	
	50	8.91477	8.91624	10			50	8.92236	8.92388	10	
43	0	8.91502	8.91650	0	17	48	0	8.92261	8.92414	0	12
	10	8.91528	8.91675	50			10	8.92286	8.92439	50	
	20	8.91553	8.91701	40			20	8.92311	8.92464	40	
	30	8.91579	8.91727	30			30	8.92336	8.92489	30	
	40	8.91604	8.91752	20			40	8.92361	8.92515	20	
	50	8.91630	8.91778	10			50	8.92386	8.92540	10	
44	0	8.91655	8.91803	0	16	49	0	8.92411	8.92565	0	11
	10	8.91680	8.91829	50			10	8.92436	8.92590	50	
	20	8.91706	8.91855	40			20	8.92461	8.92615	40	
	30	8.91731	8.91880	30			30	8.92486	8.92640	30	
	40	8.91757	8.91906	20			40	8.92511	8.92665	20	
	50	8.91782	8.91931	10			50	8.92536	8.92691	10	
45	0	8.91807	8.91957	0	15	50	0	8.92561	8.92716	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

85°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	8.92561	8.92716	0	10	55	0	8.93301	8.93462	0	5
	10	8.92586	8.92741	50			10	8.93326	8.93486	50	
	20	8.92611	8.92766	40			20	8.93350	8.93511	40	
	30	8.92636	8.92791	30			30	8.93375	8.93536	30	
	40	8.92660	8.92816	20			40	8.93399	8.93560	20	
	50	8.92685	8.92841	10			50	8.93424	8.93585	10	
51	0	8.92710	8.92866	0	9	56	0	8.93448	8.93609	0	4
	10	8.92735	8.92891	50			10	8.93472	8.93634	50	
	20	8.92760	8.92916	40			20	8.93497	8.93658	40	
	30	8.92784	8.92941	30			30	8.93521	8.93683	30	
	40	8.92809	8.92966	20			40	8.93546	8.93707	20	
	50	8.92834	8.92991	10			50	8.93570	8.93732	10	
52	0	8.92859	8.93016	0	8	57	0	8.93594	8.93756	0	3
	10	8.92883	8.93040	50			10	8.93619	8.93781	50	
	20	8.92908	8.93065	40			20	8.93643	8.93805	40	
	30	8.92933	8.93090	30			30	8.93667	8.93830	30	
	40	8.92957	8.93115	20			40	8.93691	8.93854	20	
	50	8.92982	8.93140	10			50	8.93716	8.93879	10	
53	0	8.93007	8.93165	0	7	58	0	8.93740	8.93903	0	2
	10	8.93031	8.93190	50			10	8.93764	8.93928	50	
	20	8.93056	8.93214	40			20	8.93788	8.93952	40	
	30	8.93081	8.93239	30			30	8.93812	8.93976	30	
	40	8.93105	8.93264	20			40	8.93837	8.94001	20	
	50	8.93130	8.93289	10			50	8.93861	8.94025	10	
54	0	8.93154	8.93313	0	6	59	0	8.93885	8.94049	0	1
	10	8.93179	8.93338	50			10	8.93909	8.94074	50	
	20	8.93203	8.93363	40			20	8.93933	8.94098	40	
	30	8.93228	8.93388	30			30	8.93957	8.94122	30	
	40	8.93253	8.93412	20			40	8.93981	8.94147	20	
	50	8.93277	8.93437	10			50	8.94006	8.94171	10	
55	0	8.93301	8.93462	0	5	60	0	8.94030	8.94195	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

5°

'	''	sin	tang	''	'	'	''	sin	tang	''	'
0	0	8.94030	8.94195	0	60	5	0	8.94746	8.94917	0	55
	10	8.94054	8.94219	50			10	8.94769	8.94941	50	
	20	8.94078	8.94244	40			20	8.94793	8.94964	40	
	30	8.94102	8.94268	30			30	8.94817	8.94988	30	
	40	8.94126	8.94292	20			40	8.94840	8.95012	20	
	50	8.94150	8.94316	10			50	8.94864	8.95036	10	
1	0	8.94174	8.94340	0	59	6	0	8.94887	8.95060	0	54
	10	8.94198	8.94365	50			10	8.94911	8.95083	50	
	20	8.94222	8.94389	40			20	8.94935	8.95107	40	
	30	8.94246	8.94413	30			30	8.94958	8.95131	30	
	40	8.94270	8.94437	20			40	8.94982	8.95155	20	
	50	8.94294	8.94461	10			50	8.95005	8.95178	10	
2	0	8.94317	8.94485	0	58	7	0	8.95028	8.95202	0	53
	10	8.94341	8.94509	50			10	8.95052	8.95226	50	
	20	8.94365	8.94533	40			20	8.95076	8.95249	40	
	30	8.94389	8.94557	30			30	8.95099	8.95273	30	
	40	8.94413	8.94581	20			40	8.95123	8.95297	20	
	50	8.94437	8.94606	10			50	8.95146	8.95320	10	
3	0	8.94461	8.94630	0	57	8	0	8.95170	8.95344	0	52
	10	8.94484	8.94054	50			10	8.95193	8.95368	50	
	20	8.94508	8.94678	40			20	8.95216	8.95391	40	
	30	8.94532	8.94702	30			30	8.95240	8.95415	30	
	40	8.94556	8.94725	20			40	8.95263	8.95439	20	
	50	8.94580	8.94749	10			50	8.95287	8.95462	10	
4	0	8.94603	8.94773	0	56	9	0	8.95310	8.95486	0	51
	10	8.94627	8.94797	50			10	8.95333	8.95509	50	
	20	8.94651	8.94821	40			20	8.95357	8.95533	40	
	30	8.94675	8.94845	30			30	8.95380	8.95556	30	
	40	8.94698	8.94869	20			40	8.95403	8.95580	20	
	50	8.94722	8.94893	10			50	8.95427	8.95603	10	
5	0	8.94746	8.94917	0	55	10	0	8.95450	8.95627	0	50
'	''	cos	cotg	''	'	'	''	cos	cotg	''	'

84°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	8.95450	8.95627	0	50	15	0	8.96143	8.96325	0	45
	10	8.95473	8.95650	50			10	8.96166	8.96349	50	
	20	8.95496	8.95674	40			20	8.96189	8.96372	40	
	30	8.95520	8.95697	30			30	8.96212	8.96395	30	
	40	8.95543	8.95721	20			40	8.96234	8.96418	20	
	50	8.95566	8.95744	10			50	8.96257	8.96441	10	
11	0	8.95589	8.95767	0	49	16	0	8.96280	8.96464	0	44
	10	8.95613	8.95791	50			10	8.96303	8.96487	50	
	20	8.95636	8.95814	40			20	8.96326	8.96510	40	
	30	8.95659	8.95838	30			30	8.96349	8.96533	30	
	40	8.95682	8.95861	20			40	8.96371	8.96556	20	
	50	8.95705	8.95884	10			50	8.96394	8.96579	10	
12	0	8.95728	8.95908	0	48	17	0	8.96417	8.96602	0	43
	10	8.95752	8.95931	50			10	8.96440	8.96625	50	
	20	8.95775	8.95954	40			20	8.96462	8.96648	40	
	30	8.95798	8.95977	30			30	8.96485	8.96671	30	
	40	8.95821	8.96001	20			40	8.96508	8.96694	20	
	50	8.95844	8.96024	10			50	8.96531	8.96717	10	
13	0	8.95867	8.96047	0	47	18	0	8.96553	8.96739	0	42
	10	8.95890	8.96071	50			10	8.96576	8.96762	50	
	20	8.95913	8.96094	40			20	8.96599	8.96785	40	
	30	8.95936	8.96117	30			30	8.96621	8.96808	30	
	40	8.95959	8.96140	20			40	8.96644	8.96831	20	
	50	8.95982	8.96163	10			50	8.96667	8.96854	10	
14	0	8.96005	8.96187	0	46	19	0	8.96689	8.96877	0	41
	10	8.96028	8.96210	50			10	8.96712	8.96899	50	
	20	8.96051	8.96233	40			20	8.96735	8.96922	40	
	30	8.96074	8.96256	30			30	8.96757	8.96945	30	
	40	8.96097	8.96279	20			40	8.96780	8.96968	20	
	50	8.96120	8.96302	10			50	8.96802	8.96991	10	
15	0	8.96143	8.96325	0	45	20	0	8.96825	8.97013	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

5°

′	″	sin	tang	″	′
20	0	8.96825	8.97013	0	40
	10	8.96847	8.97036	50	
	20	8.96870	8.97059	40	
	30	8.96892	8.97081	30	
	40	8.96915	8.97104	20	
	50	8.96937	8.97127	10	
21	0	8.96960	8.97150	0	39
	10	8.96982	8.97172	50	
	20	8.97005	8.97195	40	
	30	8.97027	8.97218	30	
	40	8.97050	8.97240	20	
	50	8.97072	8.97263	10	
22	0	8.97095	8.97285	0	38
	10	8.97117	8.97308	50	
	20	8.97139	8.97331	40	
	30	8.97162	8.97353	30	
	40	8.97184	8.97376	20	
	50	8.97207	8.97398	10	
23	0	8.97229	8.97421	0	37
	10	8.97251	8.97443	50	
	20	8.97274	8.97466	40	
	30	8.97296	8.97488	30	
	40	8.97318	8.97511	20	
	50	8.97341	8.97533	10	
24	0	8.97363	8.97556	0	36
	10	8.97385	8.97578	50	
	20	8.97407	8.97601	40	
	30	8.97430	8.97623	30	
	40	8.97452	8.97646	20	
	50	8.97474	8.97668	10	
25	0	8.97496	8.97691	0	35
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
25	0	8.97496	8.97691	0	35
	10	8.97518	8.97713	50	
	20	8.97541	8.97735	40	
	30	8.97563	8.97758	30	
	40	8.97585	8.97780	20	
	50	8.97607	8.97802	10	
26	0	8.97629	8.97825	0	34
	10	8.97651	8.97847	50	
	20	8.97674	8.97869	40	
	30	8.97696	8.97892	30	
	40	8.97718	8.97914	20	
	50	8.97740	8.97936	10	
27	0	8.97762	8.97959	0	33
	10	8.97784	8.97981	50	
	20	8.97806	8.98003	40	
	30	8.97828	8.98025	30	
	40	8.97850	8.98048	20	
	50	8.97872	8.98070	10	
28	0	8.97894	8.98092	0	32
	10	8.97916	8.98114	50	
	20	8.97938	8.98136	40	
	30	8.97960	8.98159	30	
	40	8.97982	8.98181	20	
	50	8.98004	8.98203	10	
29	0	8.98026	8.98225	0	31
	10	8.98048	8.98247	50	
	20	8.98070	8.98269	40	
	30	8.98092	8.98291	30	
	40	8.98114	8.98314	20	
	50	8.98135	8.98336	10	
30	0	8.98157	8.98358	0	30
′	″	cos	cotg	″	′

84°

5°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	8.98157	8.98358	0	30	35	0	8.98808	8.99015	0	25
	10	8.98179	8.98380	50			10	8.98830	8.99037	50	
	20	8.98201	8.98402	40			20	8.98851	8.99058	40	
	30	8.98223	8.98424	30			30	8.98873	8.99080	30	
	40	8.98245	8.98446	20			40	8.98894	8.99102	20	
	50	8.98266	8.98468	10			50	8.98916	8.99123	10	
31	0	8.98288	8.98490	0	29	36	0	8.98937	8.99145	0	24
	10	8.98310	8.98512	50			10	8.98959	8.99167	50	
	20	8.98332	8.98534	40			20	8.98980	8.99188	40	
	30	8.98354	8.98556	30			30	8.99002	8.99210	30	
	40	8.98375	8.98578	20			40	8.99023	8.99232	20	
	50	8.98397	8.98600	10			50	8.99045	8.99253	10	
32	0	8.98419	8.98622	0	28	37	0	8.99066	8.99275	0	23
	10	8.98441	8.98644	50			10	8.99087	8.99297	50	
	20	8.98462	8.98666	40			20	8.99109	8.99318	40	
	30	8.98484	8.98687	30			30	8.99130	8.99340	30	
	40	8.98506	8.98709	20			40	8.99152	8.99361	20	
	50	8.98527	8.98731	10			50	8.99173	8.99383	10	
33	0	8.98549	8.98753	0	27	38	0	8.99194	8.99405	0	22
	10	8.98571	8.98775	50			10	8.99216	8.99426	50	
	20	8.98592	8.98797	40			20	8.99237	8.99448	40	
	30	8.98614	8.98819	30			30	8.99258	8.99469	30	
	40	8.98636	8.98841	20			40	8.99280	8.99491	20	
	50	8.98657	8.98862	10			50	8.99301	8.99512	10	
34	0	8.98679	8.98884	0	26	39	0	8.99322	8.99534	0	21
	10	8.98701	8.98906	50			10	8.99343	8.99555	50	
	20	8.98722	8.98928	49			20	8.99365	8.99577	40	
	30	8.98744	8.98950	30			30	8.99386	8.99598	30	
	40	8.98765	8.98971	20			40	8.99407	8.99620	20	
	50	8.98787	8.98993	10			50	8.99428	8.99641	10	
35	0	8.98808	8.99015	0	25	40	0	8.99450	8.99662	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

84°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	8.99450	8.99662	0	20	45	0	9.00082	9.00301	0	15
	10	8.99471	8.99684	50			10	9.00103	9.00322	50	
	20	8.99492	8.99705	40			20	9.00123	9.00343	40	
	30	8.99513	8.99727	30			30	9.00144	9.00364	30	
	40	8.99534	8.99748	20			40	9.00165	9.00385	20	
	50	8.99556	8.99769	10			50	9.00186	9.00406	10	
41	0	8.99577	8.99791	0	19	46	0	9.00207	9.00427	0	14
	10	8.99598	8.99812	50			10	9.00228	9.00448	50	
	20	8.99619	8.99834	40			20	9.00249	9.00469	40	
	30	8.99640	8.99855	30			30	9.00269	9.00490	30	
	40	8.99661	8.99876	20			40	9.00290	9.00511	20	
	50	8.99682	8.99898	10			50	9.00311	9.00532	10	
42	0	8.99704	8.99919	0	18	47	0	9.00332	9.00553	0	13
	10	8.99725	8.99940	50			10	9.00353	9.00574	50	
	20	8.99746	8.99961	40			20	9.00373	9.00595	40	
	30	8.99767	8.99983	30			30	9.00394	9.00616	30	
	40	8.99788	9.00004	20			40	9.00415	9.00637	20	
	50	8.99809	9.00025	10			50	9.00436	9.00658	10	
43	0	8.99830	9.00046	0	17	48	0	9.00456	9.00679	0	12
	10	8.99851	9.00068	50			10	9.00477	9.00700	50	
	20	8.99872	9.00089	40			20	9.00498	9.00721	40	
	30	8.99893	9.00110	30			30	9.00518	9.00742	30	
	40	8.99914	9.00131	20			40	9.00539	9.00763	20	
	50	8.99935	9.00153	10			50	9.00560	9.00784	10	
44	0	8.99956	9.00174	0	16	49	0	9.00581	9.00805	0	11
	10	8.99977	9.00195	50			10	9.00601	9.00826	50	
	20	8.99998	9.00216	40			20	9.00622	9.00846	40	
	30	9.00019	9.00237	30			30	9.00642	9.00867	30	
	40	9.00040	9.00258	20			40	9.00663	9.00888	20	
	50	9.00061	9.00280	10			50	9.00684	9.00909	10	
45	0	9.00082	9.00301	0	15	50	0	9.00704	9.00930	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

5°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.00704	9.00930	0	10	55	0	9.01318	9.01550	0	5
	10	9.00725	9.00951	50			10	9.01339	9.01571	50	
	20	9.00746	9.00971	40			20	9.01359	9.01591	40	
	30	9.00766	9.00992	30			30	9.01379	9.01612	30	
	40	9.00787	9.01013	20			40	9.01399	9.01632	20	
	50	9.00807	9.01034	10			50	9.01420	9.01653	10	
51	0	9.00828	9.01055	0	9	56	0	9.01440	9.01673	0	4
	10	9.00848	9.01075	50			10	9.01460	9.01694	50	
	20	9.00869	9.01096	40			20	9.01480	9.01714	40	
	30	9.00889	9.01117	30			30	9.01501	9.01735	30	
	40	9.00910	9.01138	20			40	9.01521	9.01755	20	
	50	9.00930	9.01158	10			50	9.01541	9.01776	10	
52	0	9.00951	9.01179	0	8	57	0	9.01561	9.01796	0	3
	10	9.00971	9.01200	50			10	9.01582	9.01816	50	
	20	9.00992	9.01220	40			20	9.01602	9.01837	40	
	30	9.01012	9.01241	30			30	9.01622	9.01857	30	
	40	9.01033	9.01262	20			40	9.01642	9.01878	20	
	50	9.01053	9.01282	10			50	9.01662	9.01898	10	
53	0	9.01074	9.01303	0	7	58	0	9.01682	9.01918	0	2
	10	9.01094	9.01324	50			10	9.01703	9.01939	50	
	20	9.01115	9.01344	40			20	9.01723	9.01959	40	
	30	9.01135	9.01365	30			30	9.01743	9.01979	30	
	40	9.01155	9.01386	20			40	9.01763	9.02000	20	
	50	9.01176	9.01406	10			50	9.01783	9.02020	10	
54	0	9.01196	9.01427	0	6	59	0	9.01803	9.02040	0	1
	10	9.01217	9.01447	50			10	9.01823	9.02061	50	
	20	9.01237	9.01468	40			20	9.01843	9.02081	40	
	30	9.01257	9.01489	30			30	9.01863	9.02101	30	
	40	9.01278	9.01509	20			40	9.01883	9.02121	20	
	50	9.01298	9.01530	10			50	9.01903	9.02142	10	
55	0	9.01318	9.01550	0	5	60	0	9.01923	9.02162	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

84°

6°

′	″	sin	tang	″	′
0	0	9.01923	9.02162	0	60
	10	9.01943	9.02182	50	
	20	9.01964	9.02203	40	
	30	9.01984	9.02223	30	
	40	9.02004	9.02243	20	
	50	9.02024	9.02263	10	
1	0	9.02043	9.02283	0	59
	10	9.02063	9.02304	50	
	20	9.02083	9.02324	40	
	30	9.02103	9.02344	30	
	40	9.02123	9.02364	20	
	50	9.02143	9.02384	10	
2	0	9.02163	9.02404	0	58
	10	9.02183	9.02425	50	
	20	9.02203	9.02445	10	
	30	9.02223	9.02465	30	
	40	9.02243	9.02485	20	
	50	9.02263	9.02505	10	
3	0	9.02283	9.02525	0	57
	10	9.02302	9.02545	50	
	20	9.02322	9.02565	40	
	30	9.02342	9.02585	30	
	40	9.02362	9.02605	20	
	50	9.02382	9.02625	10	
4	0	9.02402	9.02645	0	56
	10	9.02421	9.02666	50	
	20	9.02441	9.02686	40	
	30	9.02461	9.02706	30	
	40	9.02481	9.02726	20	
	50	9.02501	9.02746	10	
5	0	9.02520	9.02766	0	55
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
5	0	9.02520	9.02766	0	55
	10	9.02540	9.02785	50	
	20	9.02560	9.02805	40	
	30	9.02579	9.02825	30	
	40	9.02599	9.02845	20	
	50	9.02619	9.02865	10	
6	0	9.02639	9.02885	0	54
	10	9.02658	9.02905	50	
	20	9.02678	9.02925	40	
	30	9.02698	9.02945	30	
	40	9.02717	9.02965	20	
	50	9.02737	9.02985	10	
7	0	9.02757	9.03005	0	53
	10	9.02776	9.03025	50	
	20	9.02796	9.03044	40	
	30	9.02816	9.03064	30	
	40	9.02835	9.03084	20	
	50	9.02855	9.03104	10	
8	0	9.02874	9.03124	0	52
	10	9.02894	9.03144	50	
	20	9.02914	9.03163	40	
	30	9.02933	9.03183	30	
	40	9.02953	9.03203	20	
	50	9.02972	9.03223	10	
9	0	9.02992	9.03242	0	51
	10	9.03011	9.03262	50	
	20	9.03031	9.03282	40	
	30	9.03050	9.03302	30	
	40	9.03070	9.03321	20	
	50	9.03089	9.03341	10	
10	0	9.03109	9.03361	0	50
′	″	cos	cotg	″	′

83°

6°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.03109	9.03361	0	50	15	0	9.03690	9.03948	0	45
	10	9.03128	9.03381	50			10	9.03709	9.03968	50	
	20	9.03148	9.03400	40			20	9.03728	9.03987	40	
	30	9.03167	9.03420	30			30	9.03747	9.04007	30	
	40	9.03187	9.03440	20			40	9.03766	9.04026	20	
	50	9.03206	9.03459	10			50	9.03786	9.04046	10	
11	0	9.03226	9.03479	0	49	16	0	9.03805	9.04065	0	44
	10	9.03245	9.03499	50			10	9.03824	9.04084	50	
	20	9.03265	9.03518	40			20	9.03843	9.04104	40	
	30	9.03284	9.03538	30			30	9.03862	9.04123	30	
	40	9.03303	9.03558	20			40	9.03881	9.04143	20	
	50	9.03323	9.03577	10			50	9.03901	9.04162	10	
12	0	9.03342	9.03597	0	48	17	0	9.03920	9.04181	0	43
	10	9.03361	9.03616	50			10	9.03939	9.04201	50	
	20	9.03381	9.03636	40			20	9.03958	9.04220	40	
	30	9.03400	9.03656	30			30	9.03977	9.04239	30	
	40	9.03420	9.03675	20			40	9.03996	9.04259	20	
	50	9.03439	9.03695	10			50	9.04015	9.04278	10	
13	0	9.03458	9.03714	0	47	18	0	9.04034	9.04297	0	42
	10	9.03478	9.03734	50			10	9.04053	9.04317	50	
	20	9.03497	9.03753	40			20	9.04072	9.04336	40	
	30	9.03516	9.03773	30			30	9.04091	9.04355	30	
	40	9.03535	9.03793	20			40	9.04110	9.04374	20	
	50	9.03555	9.03812	10			50	9.04129	9.04394	10	
14	0	9.03574	9.03832	0	46	19	0	9.04149	9.04413	0	41
	10	9.03593	9.03851	50			10	9.04168	9.04432	50	
	20	9.03613	9.03871	40			20	9.04187	9.04451	40	
	30	9.03632	9.03890	30			30	9.04206	9.04471	30	
	40	9.03651	9.03910	20			40	9.04225	9.04490	20	
	50	9.03670	9.03929	10			50	9.04244	9.04509	10	
15	0	9.03690	9.03948	0	45	20	0	9.04262	9.04528	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

83°

6⁰

′	″	sin	tang	″	′
20	0	9.04262	9.04528	0	40
	10	9.04281	9.04548	50	
	20	9.04300	9.04567	40	
	30	9.04319	9.04586	30	
	40	9.04338	9.04605	20	
	50	9.04357	9.04624	10	
21	0	9.04376	9.04643	0	39
	10	9.04395	9.04663	50	
	20	9.04414	9.04682	40	
	30	9.04433	9.04701	30	
	40	9.04452	9.04720	20	
	50	9.04471	9.04739	10	
22	0	9.04490	9.04758	0	38
	10	9.04508	9.04777	50	
	20	9.04527	9.04796	40	
	30	9.04546	9.04815	30	
	40	9.04565	9.04835	20	
	50	9.04584	9.04854	10	
23	0	9.04603	9.04873	0	37
	10	9.04621	9.04892	50	
	20	9.04640	9.04911	40	
	30	9.04659	9.04930	30	
	40	9.04678	9.04949	20	
	50	9.04697	9.04968	10	
24	0	9.04715	9.04987	0	36
	10	9.04734	9.05006	50	
	20	9.04753	9.05025	40	
	30	9.04772	9.05044	30	
	40	9.04790	9.05063	20	
	50	9.04809	9.05082	10	
25	0	9.04828	9.05101	0	35
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
25	0	9.04828	9.05101	0	35
	10	9.04847	9.05120	50	
	20	9.04865	9.05139	40	
	30	9.04884	9.05158	30	
	40	9.04903	9.05177	20	
	50	9.04921	9.05195	10	
26	0	9.04940	9.05214	0	34
	10	9.04959	9.05233	50	
	20	9.04977	9.05252	40	
	30	9.04996	9.05271	30	
	40	9.05015	9.05290	20	
	50	9.05033	9.05309	10	
27	0	9.05052	9.05328	0	33
	10	9.05071	9.05347	50	
	20	9.05089	9.05365	40	
	30	9.05108	9.05384	30	
	40	9.05126	9.05403	20	
	50	9.05145	9.05422	10	
28	0	9.05164	9.05441	0	32
	10	9.05182	9.05460	50	
	20	9.05201	9.05478	40	
	30	9.05219	9.05497	30	
	40	9.05238	9.05516	20	
	50	9.05256	9.05535	10	
29	0	9.05275	9.05553	0	31
	10	9.05293	9.05572	50	
	20	9.05312	9.05591	40	
	30	9.05330	9.05610	30	
	40	9.05349	9.05628	20	
	50	9.05367	9.05647	10	
30	0	9.05386	9.05666	0	30
′	″	cos	cotg	″	′

83⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	9.05386	9.05666	0	30	35	0	9.05937	9.06224	0	25
	10	9.05404	9.05685	50			10	9.05955	9.06243	50	
	20	9.05423	9.05703	40			20	9.05973	9.06261	40	
	30	9.05441	9.05722	30			30	9.05991	9.06279	30	
	40	9.05460	9.05741	20			40	9.06010	9.06298	20	
	50	9.05478	9.05759	10			50	9.06028	9.06316	10	
31	0	9.05497	9.05778	0	29	36	0	9.06046	9.06335	0	24
	10	9.05515	9.05797	50			10	9.06064	9.06353	50	
	20	9.05533	9.05815	40			20	9.06082	9.06372	40	
	30	9.05552	9.05834	30			30	9.06101	9.06390	30	
	40	9.05570	9.05853	20			40	9.06119	9.06409	20	
	50	9.05589	9.05871	10			50	9.06137	9.06427	10	
32	0	9.05607	9.05890	0	28	37	0	9.06155	9.06445	0	23
	10	9.05625	9.05909	50			10	9.06173	9.06464	50	
	20	9.05644	9.05927	40			20	9.06191	9.06482	40	
	30	9.05662	9.05946	30			30	9.06210	9.06500	30	
	40	9.05681	9.05964	20			40	9.06228	9.06519	20	
	50	9.05699	9.05983	10			50	9.06246	9.06537	10	
33	0	9.05717	9.06002	0	27	38	0	9.06264	9.06556	0	22
	10	9.05736	9.06020	50			10	9.06282	9.06574	50	
	20	9.05754	9.06039	40			20	9.06300	9.06592	40	
	30	9.05772	9.06057	30			30	9.06318	9.06611	30	
	40	9.05791	9.06076	20			40	9.06336	9.06629	20	
	50	9.05809	9.06094	10			50	9.06354	9.06647	10	
34	0	9.05827	9.06113	0	26	39	0	9.06372	9.06666	0	21
	10	9.05845	9.06132	50			10	9.06390	9.06684	50	
	20	9.05864	9.06150	40			20	9.06408	9.06702	40	
	30	9.05882	9.06169	30			30	9.06426	9.06720	30	
	40	9.05900	9.06187	20			40	9.06445	9.06739	20	
	50	9.05918	9.06206	10			50	9.06463	9.06757	10	
35	0	9.05937	9.06224	0	25	40	0	9.06481	9.06775	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

6°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	9.06481	9.06775	0	20	45	0	9.07018	9.07320	0	15
	10	9.06499	9.06793	50			10	9.07035	9.07338	50	
	20	9.06517	9.06812	40			20	9.07053	9.07356	40	
	30	9.06535	9.06830	30			30	9.07071	9.07374	30	
	40	9.06553	9.06848	20			40	9.07089	9.07392	20	
	50	9.06571	9.06866	10			50	9.07106	9.07410	10	
41	0	9.06589	9.06885	0	19	46	0	9.07124	9.07428	0	14
	10	9.06606	9.06903	50			10	9.07142	9.07446	50	
	20	9.06624	9.06921	40			20	9.07160	9.07464	40	
	30	9.06642	9.06939	30			30	9.07177	9.07482	30	
	40	9.06660	9.06957	20			40	9.07195	9.07500	20	
	50	9.06678	9.06976	10			50	9.07213	9.07518	10	
42	0	9.06696	9.06994	0	18	47	0	9.07231	9.07536	0	13
	10	9.06714	9.07012	50			10	9.07248	9.07554	50	
	20	9.06732	9.07030	40			20	9.07266	9.07572	40	
	30	9.06750	9.07048	30			30	9.07284	9.07589	30	
	40	9.06768	9.07066	20			40	9.07301	9.07607	20	
	50	9.06786	9.07085	10			50	9.07319	9.07625	10	
43	0	9.06804	9.07103	0	17	48	0	9.07337	9.07643	0	12
	10	9.06821	9.07121	50			10	9.07354	9.07661	50	
	20	9.06839	9.07139	40			20	9.07372	9.07679	40	
	30	9.06857	9.07157	30			30	9.07390	9.07697	30	
	40	9.06875	9.07175	20			40	9.07407	9.07715	20	
	50	9.06893	9.07193	10			40	9.07425	9.07733	10	
44	0	9.06911	9.07211	0	16	49	0	9.07442	9.07751	0	11
	10	9.06929	9.07229	50			10	9.07460	9.07768	50	
	20	9.06946	9.07247	40			20	9.07478	9.07786	40	
	30	9.06964	9.07266	30			30	9.07495	9.07804	30	
	40	9.06982	9.07284	20			40	9.07513	9.07822	20	
	50	9.07000	9.07302	10			50	9.07530	9.07840	10	
45	0	9.07018	9.07320	0	15	50	0	9.07548	9.07858	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

83°

6°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.07548	9.07858	0	10	55	0	9.08072	9.08389	0	5
	10	9.07566	9.07875	50			10	9.08089	9.08407	50	
	20	9.07583	9.07893	40			20	9.08107	9.08424	40	
	30	9.07601	9.07911	30			30	9.08124	9.08442	30	
	40	9.07618	9.07929	20			40	9.08141	9.08460	20	
	50	9.07636	9.07947	10			50	9.08159	9.08477	10	
51	0	9.07653	9.07964	0	9	56	0	9.08176	9.08495	0	4
	10	9.07671	9.07982	50			10	9.08193	9.08512	50	
	20	9.07688	9.08000	40			20	9.08211	9.08530	40	
	30	9.07706	9.08018	30			30	9.08228	9.08547	30	
	40	9.07723	9.08035	20			40	9.08245	9.08565	20	
	50	9.07741	9.08053	10			50	9.08262	9.08582	10	
52	0	9.07758	9.08071	0	8	57	0	9.08280	9.08600	0	3
	10	9.07776	9.08089	50			10	9.08297	9.08617	50	
	20	9.07793	9.08106	40			20	9.08314	9.08635	40	
	30	9.07811	9.08124	30			30	9.08331	9.08653	30	
	40	9.07828	9.08142	20			40	9.08349	9.08670	20	
	50	9.07846	9.08160	10			50	9.08366	9.08688	10	
53	0	9.07863	9.08177	0	7	58	0	9.08383	9.08705	0	2
	10	9.07881	9.08195	50			10	9.08400	9.08722	50	
	20	9.07898	9.08213	40			20	9.08418	9.08740	40	
	30	9.07915	9.08230	30			30	9.08435	9.08757	30	
	40	9.07933	9.08248	20			40	9.08452	9.08775	20	
	50	9.07950	9.08266	10			50	9.08469	9.08792	10	
54	0	9.07968	9.08283	0	6	59	0	9.08486	9.08810	0	1
	10	9.07985	9.08301	50			10	9.08504	9.08827	50	
	20	9.08002	9.08319	40			20	9.08521	9.08845	40	
	30	9.08020	9.08336	30			30	9.08538	9.08862	30	
	40	9.08037	9.08354	20			40	9.08555	9.08880	20	
	50	9.08055	9.08371	10			50	9.08572	9.08897	10	
55	0	9.08072	9.08389	0	5	60	0	9.08589	9.08914	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

83°

7°

′	″	sin	tang	″	′
0	0	9.08589	9.08914	0	60
	10	9.08607	9.08932	50	
	20	9.08624	9.08949	40	
	30	9.08641	9.08967	30	
	40	9.08658	9.08984	20	
	50	9.08675	9.09001	10	
1	0	9.08692	9.09019	0	59
	10	9.08709	9.09036	50	
	20	9.08726	9.09053	40	
	30	9.08744	9.09071	30	
	40	9.08761	9.09088	20	
	50	9.08778	9.09105	10	
2	0	9.08795	9.09123	0	58
	10	9.08812	9.09140	50	
	20	9.08829	9.09157	40	
	30	9.08846	9.09175	30	
	40	9.08863	9.09192	20	
	50	9.08880	9.09209	10	
3	0	9.08897	9.09227	0	57
	10	9.08914	9.09244	50	
	20	9.08931	9.09261	40	
	30	9.08948	9.09278	30	
	40	9.08965	9.09296	20	
	50	9.08982	9.09313	10	
4	0	9.08999	9.09330	0	56
	10	9.09016	9.09347	50	
	20	9.09033	9.09365	40	
	30	9.09050	9.09382	30	
	40	9.09067	9.09399	20	
	50	9.09084	9.09416	10	
5	0	9.09101	9.09434	0	55
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
5	0	9.09101	9.09434	0	55
	10	9.09118	9.09451	50	
	20	9.09135	9.09468	40	
	30	9.09152	9.09485	30	
	40	9.09169	9.09502	20	
	50	9.09185	9.09519	10	
6	0	9.09202	9.09537	0	54
	10	9.09219	9.09554	50	
	20	9.09236	9.09571	40	
	30	9.09253	9.09588	30	
	40	9.09270	9.09605	20	
	50	9.09287	9.09622	10	
7	0	9.09304	9.09640	0	53
	10	9.09321	9.09657	50	
	20	9.09337	9.09674	40	
	30	9.09354	9.09691	30	
	40	9.09371	9.09708	20	
	50	9.09388	9.09725	10	
8	0	9.09405	9.09742	0	52
	10	9.09422	9.09759	50	
	20	9.09438	9.09776	40	
	30	9.09455	9.09793	30	
	40	9.09472	9.09810	20	
	50	9.09489	9.09828	10	
9	0	9.09506	9.09845	0	51
	10	9.09522	9.09862	50	
	20	9.09539	9.09879	40	
	30	9.09556	9.09896	30	
	40	9.09573	9.09913	20	
	50	9.09589	9.09930	10	
10	0	9.09606	9.09947	0	50
′	″	cos	cotg	″	′

82°

7°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.09606	9.09947	0	50	15	0	9.10106	9.10454	0	45
	10	9.09623	9.09964	50			10	9.10122	9.10471	50	
	20	9.09640	9.09981	40			20	9.10139	9.10488	40	
	30	9.09656	9.09998	30			30	9.10155	9.10505	30	
	40	9.09673	9.10015	20			40	9.10172	9.10521	20	
	50	9.09690	9.10032	10			50	9.10188	9.10538	10	
11	0	9.09707	9.10049	0	49	16	0	9.10205	9.10555	0	44
	10	9.09723	9.10066	50			10	9.10221	9.10572	50	
	20	9.09740	9.10083	40			20	9.10238	9.10589	40	
	30	9.09757	9.10100	30			30	9.10254	9.10605	30	
	40	9.09773	9.10117	20			40	9.10271	9.10622	20	
	50	9.09790	9.10133	10			50	9.10287	9.10639	10	
12	0	9.09807	9.10150	0	48	17	0	9.10304	9.10656	0	43
	10	9.09823	9.10167	50			10	9.10320	9.10672	50	
	20	9.09840	9.10184	40			20	9.10337	9.10689	40	
	30	9.09857	9.10201	30			30	9.10353	9.10706	30	
	40	9.09873	9.10218	20			40	9.10370	9.10722	20	
	50	9.09890	9.10235	10			50	9.10386	9.10739	10	
13	0	9.09907	9.10252	0	47	18	0	9.10402	9.10756	0	42
	10	9.09923	9.10269	50			10	9.10419	9.10773	50	
	20	9.09940	9.10286	40			20	9.10435	9.10789	40	
	30	9.09956	9.10303	30			30	9.10452	9.10806	30	
	40	9.09973	9.10319	20			40	9.10468	9.10823	20	
	50	9.09990	9.10336	10			50	9.10485	9.10839	10	
14	0	9.10006	9.10353	0	46	19	0	9.10501	9.10856	0	41
	10	9.10023	9.10370	50			10	9.10517	9.10873	50	
	20	9.10039	9.10387	40			20	9.10534	9.10889	40	
	30	9.10056	9.10404	30			30	9.10550	9.10906	30	
	40	9.10072	9.10421	20			40	9.10567	9.10923	20	
	50	9.10089	9.10437	10			50	9.10583	9.10939	10	
15	0	9.10106	9.10454	0	45	20	0	9.10599	9.10956	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

82°

7°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
20	0	9.10599	9.10956	0	40	25	0	9.11087	9.11452	0	35
	10	9.10616	9.10973	50			10	9.11103	9.11469	50	
	20	9.10632	9.10989	40			20	9.11120	9.11485	40	
	30	9.10648	9.11006	30			30	9.11136	9.11501	30	
	40	9.10665	9.11022	20			40	9.11152	9.11518	20	
	50	9.10681	9.11039	10			50	9.11168	9.11534	10	
21	0	9.10697	9.11056	0	39	26	0	9.11184	9.11551	0	34
	10	9.10714	9.11072	50			10	9.11200	9.11567	50	
	20	9.10730	9.11089	40			20	9.11216	9.11584	40	
	30	9.10746	9.11105	30			30	9.11233	9.11600	30	
	40	9.10763	9.11122	20			40	9.11249	9.11616	20	
	50	9.10779	9.11139	10			50	9.11265	9.11633	10	
22	0	.10795	9.11155	0	38	27	0	9.11281	9.11649	0	33
	10	9.10811	9.11172	50			10	9.11297	9.11665	50	
	20	9.10828	9.11188	40			20	9.11313	9.11682	40	
	30	9.10844	9.11205	30			30	9.11329	9.11698	30	
	40	9.10860	9.11221	20			40	9.11345	9.11715	20	
	50	9.10876	9.11238	10			50	9.11361	9.11731	10	
23	0	9.10893	9.11254	0	37	28	0	9.11377	9.11747	0	32
	10	9.10909	9.11271	50			10	9.11393	9.11764	50	
	20	9.10925	9.11287	40			20	9.11410	9.11780	40	
	30	9.10941	9.11304	30			30	9.11426	9.11796	30	
	40	9.10958	9.11320	20			40	9.11442	9.11813	20	
	50	9.10974	9.11337	10			50	9.11458	9.11829	10	
24	0	9.10990	9.11353	0	36	29	0	9.11474	9.11845	0	31
	10	9.11006	9.11370	50			10	9.11490	9.11861	50	
	20	9.11023	9.11386	40			20	9.11506	9.11878	40	
	30	9.11039	9.11403	30			30	9.11522	9.11894	30	
	40	9.11055	9.11419	20			40	9.11538	9.11910	20	
	50	9.11071	9.11436	10			50	9.11554	9.11927	10	
25	0	9.11087	9.11452	0	35	30	0	9.11570	9.11943	0	30
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

82°

7°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	9.11570	9.11943	0	30	35	0	9.12047	9.12428	0	25
	10	9.11586	9.11959	50			10	9.12063	9.12444	50	
	20	9.11602	9.11975	40			20	9.12078	9.12461	40	
	30	9.11618	9.11992	30			30	9.12094	9.12477	30	
	40	9.11634	9.12008	20			40	9.12110	9.12493	20	
	50	9.11650	9.12024	10			50	9.12126	9.12509	10	
31	0	9.11666	9.12040	0	29	36	0	9.12142	9.12525	0	24
	10	9.11682	9.12057	50			10	9.12157	9.12541	50	
	20	9.11698	9.12073	40			20	9.12173	9.12557	40	
	30	9.11713	9.12089	30			30	9.12189	9.12573	30	
	40	9.11729	9.12105	20			40	9.12205	9.12589	20	
	50	9.11745	9.12122	10			50	9.12220	9.12605	10	
32	0	9.11761	9.12138	0	28	37	0	9.12236	9.12621	0	23
	10	9.11777	9.12154	50			10	9.12252	9.12637	50	
	20	9.11793	9.12170	40			20	9.12268	9.12653	40	
	30	9.11809	9.12186	30			30	9.12283	9.12669	30	
	40	9.11825	9.12202	20			40	9.12299	9.12685	20	
	50	9.11841	9.12219	10			50	9.12315	9.12701	10	
33	0	9.11857	9.12235	0	27	38	0	9.12331	9.12717	0	22
	10	9.11873	9.12251	50			10	9.12346	9.12733	50	
	20	9.11888	9.12267	40			20	9.12362	9.12749	40	
	30	9.11904	9.12283	30			30	9.12378	9.12765	30	
	40	9.11920	9.12299	20			40	9.12393	9.12781	20	
	50	9.11936	9.12316	10			50	9.12409	9.12797	10	
34	0	9.11952	9.12332	0	26	39	0	9.12425	9.12813	0	21
	10	9.11968	9.12348	50			10	9.12440	9.12829	50	
	20	9.11984	9.12364	49			20	9.12456	9.12845	40	
	30	9.11999	9.12380	30			30	9.12472	9.12861	30	
	40	9.12015	9.12396	20			40	9.12487	9.12877	20	
	50	9.12031	9.12412	10			50	9.12503	9.12893	10	
35	0	9.12047	9.12428	0	25	40	0	9.12519	9.12909	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

82°

7°

'	"	sin	tang	"	'	'	"	sin	tang	"	'
40	0	9.12519	9.12909	0	20	45	0	9.12985	9.13384	0	15
	10	9.12534	9.12925	50			10	9.13001	9.13400	50	
	20	9.12550	9.12941	40			20	9.13016	9.13415	40	
	30	9.12566	9.12956	30			30	9.13032	9.13431	30	
	40	9.12581	9.12972	20			40	9.13047	9.13447	20	
	50	9.12597	9.12988	10			50	9.13063	9.13463	10	
41	0	9.12612	9.13004	0	19	46	0	9.13078	9.13478	0	14
	10	9.12628	9.13020	50			10	9.13094	9.13491	50	
	20	9.12644	9.13036	40			20	9.13109	9.13510	40	
	30	9.12659	9.13052	30			30	9.13124	9.13526	30	
	40	9.12675	9.13068	20			40	9.13140	9.13541	20	
	50	9.12690	9.13084	10			50	9.13155	9.13557	10	
42	0	9.12706	9.13099	0	18	47	0	9.13171	9.13573	0	13
	10	9.12722	9.13115	50			10	9.13186	9.13588	50	
	20	9.12737	9.13131	40			20	9.13201	9.13604	40	
	30	9.12753	9.13147	30			30	9.13217	9.13620	30	
	40	9.12768	9.13163	20			40	9.13232	9.13635	20	
	50	9.12784	9.13179	10			50	9.13248	9.13651	10	
43	0	9.12799	9.13194	0	17	48	0	9.13263	9.13667	0	12
	10	9.12815	9.13210	50			10	9.13278	9.13682	50	
	20	9.12830	9.13226	40			20	9.13294	9.13698	40	
	30	9.12846	9.13242	30			30	9.13309	9.13714	30	
	40	9.12861	9.13258	20			40	9.13324	9.13729	20	
	50	9.12877	9.13273	10			50	9.13340	9.13745	10	
44	0	9.12892	9.13289	0	16	49	0	9.13355	9.13761	0	11
	10	9.12908	9.13305	50			10	9.13370	9.13776	50	
	20	9.12923	9.13321	40			20	9.13386	9.13792	40	
	30	9.12939	9.13337	30			30	9.13401	9.13807	30	
	40	9.12954	9.13352	20			40	9.13416	9.13823	20	
	50	9.12970	9.13368	10			50	9.13432	9.13839	10	
45	0	9.12985	9.13384	0	15	50	0	9.13447	9.13854	0	10
'	"	cos	cotg	"	'	'	"	cos	cotg	"	'

82°

′	″	sin	tang	″	′
50	0	9.13447	9.13854	0	10
	10	9.13462	9.13870	50	
	20	9.13478	9.13885	40	
	30	9.13493	9.13901	30	
	40	9.13508	9.13917	20	
	50	9.13523	9.13932	10	
51	0	9.13539	9.13948	0	9
	10	9.13554	9.13963	50	
	20	9.13569	9.13979	40	
	30	9.13585	9.13994	30	
	40	9.13600	9.14010	20	
	50	9.13615	9.14025	10	
52	0	9.13630	9.14041	0	8
	10	9.13646	9.14056	50	
	20	9.13661	9.14072	40	
	30	9.13676	9.14087	30	
	40	9.13691	9.14103	20	
	50	9.13706	9.14118	10	
53	0	9.13722	9.14134	0	7
	10	9.13737	9.14149	50	
	20	9.13752	9.14165	40	
	30	9.13767	9.14180	30	
	40	9.13782	9.14196	20	
	50	9.13798	9.14211	10	
54	0	9.13813	9.14227	0	6
	10	9.13828	9.14242	50	
	20	9.13843	9.14258	40	
	30	9.13858	9.14273	30	
	40	9.13873	9.14289	20	
	50	9.13889	9.14304	10	
55	0	9.13904	9.14320	0	5
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
55	0	9.13904	9.14320	0	5
	10	9.13919	9.14335	50	
	20	9.13934	9.14350	40	
	30	9.13949	9.14366	30	
	40	9.13964	9.14381	20	
	50	9.13979	9.14397	10	
56	0	9.13994	9.14412	0	4
	10	9.14010	9.14427	50	
	20	9.14025	9.14443	40	
	30	9.14040	9.14458	30	
	40	9.14055	9.14474	20	
	50	9.14070	9.14489	10	
57	0	9.14085	9.14504	0	3
	10	9.14100	9.14520	50	
	20	9.14115	9.14535	40	
	30	9.14130	9.14551	30	
	40	9.14145	9.14566	20	
	50	9.14160	9.14581	10	
58	0	9.14175	9.14597	0	2
	10	9.14190	9.14612	50	
	20	9.14205	9.14627	40	
	30	9.14220	9.14643	30	
	40	9.14236	9.14658	20	
	50	9.14251	9.14673	10	
59	0	9.14266	9.14688	0	1
	10	9.14281	9.14704	50	
	20	9.14296	9.14719	40	
	30	9.14311	9.14734	30	
	40	9.14326	9.14750	20	
	50	9.14341	9.14765	10	
60	0	9.14356	9.14780	0	0
′	″	cos	cotg	″	′

8⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	9.14356	9.14780	0	60	5	0	9.14803	9.15236	0	55
	10	9.14371	9.14796	50			10	9.14817	9.15251	50	
	20	9.14385	9.14811	40			20	9.14832	9.15267	40	
	30	9.14400	9.14826	30			30	9.14847	9.15282	30	
	40	9.14415	9.14841	20			40	9.14862	9.15297	20	
	50	9.14430	9.14857	10			50	9.14877	9.15312	10	
1	0	9.14445	9.14872	0	59	6	0	9.14891	9.15327	0	54
	10	9.14460	9.14887	50			10	9.14906	9.15342	50	
	20	9.14475	9.14902	40			20	9.14921	9.15357	40	
	30	9.14490	9.14918	30			30	9.14936	9.15372	30	
	40	9.14505	9.14933	20			40	9.14951	9.15387	20	
	50	9.14520	9.14948	10			50	9.14965	9.15402	10	
2	0	9.14535	9.14963	0	58	7	0	9.14980	9.15417	0	53
	10	9.14550	9.14978	50			10	9.14995	9.15432	50	
	20	9.14565	9.14994	40			20	9.15010	9.15448	40	
	30	9.14580	9.15009	30			30	9.15024	9.15463	30	
	40	9.14595	9.15024	20			40	9.15039	9.15478	20	
	50	9.14609	9.15039	10			50	9.15054	9.15493	10	
3	0	9.14624	9.15054	0	57	8	0	9.15069	9.15508	0	52
	10	9.14639	9.15070	50			10	9.15083	9.15523	50	
	20	9.14654	9.15085	40			20	9.15098	9.15538	40	
	30	9.14669	9.15100	30			30	9.15113	9.15553	30	
	40	9.14684	9.15115	20			40	9.15128	9.15568	20	
	50	9.14699	9.15130	10			50	9.15142	9.15583	10	
4	0	9,14714	9.15145	0	56	9	0	9.15157	9.15598	0	51
	10	9.14728	9.15161	50			10	9.15172	9.15613	50	
	20	9.14743	9.15176	40			20	9.15186	9.15628	40	
	30	9.14758	9.15191	30			30	9.15201	9.15643	30	
	40	9.14773	9.15206	20			40	9.15216	9.15658	20	
	50	9.14788	9.15221	10			50	9.15230	9.15673	10	
5	0	9.14803	9.15236	0	55	10	0	9.15245	9.15688	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

81⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.15245	9.15688	0	50	15	0	9.15683	9.16135	0	45
	10	9.15260	9.15703	50			10	9.15697	9.16150	50	
	20	9.15274	9.15718	40			20	9.15712	9.16164	40	
	30	9.15289	9.15733	30			30	9.15726	9.16179	30	
	40	9.15304	9.15748	20			40	9.15741	9.16194	20	
	50	9.15318	9.15763	10			50	9.15756	9.16209	10	
11	0	9.15333	9.15777	0	49	16	0	9.15770	9.16224	0	44
	10	9.15348	9.15792	50			10	9.15784	9.16238	50	
	20	9.15362	9.15807	40			20	9.15799	9.16253	40	
	30	9.15377	9.15822	30			30	9.15813	9.16268	30	
	40	9.15392	9.15837	20			40	9.15828	9.16283	20	
	50	9.15406	9.15852	10			50	9.15842	9.16298	10	
12	0	9.15421	9.15867	0	48	17	0	9.15857	9.16312	0	43
	10	9.15435	9.15882	50			10	9.15871	9.16327	50	
	20	9.15450	9.15897	40			20	9.15886	9.16342	40	
	30	9.15465	9.15912	30			30	9.15900	9.16357	30	
	40	9.15479	9.15927	20			40	9.15915	9.16371	20	
	50	9.15494	9.15942	10			50	9.15929	9.16386	10	
13	0	9.15508	9.15956	0	47	18	0	9.15944	9.16401	0	42
	10	9.15523	9.15971	50			10	9.15958	9.16416	50	
	20	9.15537	9.15986	40			20	9.15972	9.16430	40	
	30	9.15552	9.16001	30			30	9.15987	9.16445	30	
	40	9.15567	9.16016	20			40	9.16001	9.16460	20	
	50	9.15581	9.16031	10			50	9.16016	9.16474	10	
14	0	9.15596	9.16046	0	46	19	0	9.16030	9.16489	0	41
	10	9.15610	9.16061	50			10	9.16044	9.16504	50	
	20	9.15625	9.16075	40			20	9.16059	9.16519	40	
	30	9.15639	9.16090	30			30	9.16073	9.16533	30	
	40	9.15654	9.16105	20			40	9.16088	9.16548	20	
	50	9.15668	9.16120	10			50	9.16102	9.16563	10	
15	0	9.15683	9.16135	0	45	20	0	9.16116	9.16577	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

8^0

'	''	sin	tang	''	'	'	''	sin	tang	''	'
20	0	9.16116	9.16577	0	40	25	0	9.16545	9.17016	0	35
	10	9.16131	9.16592	50			10	9.16560	9.17030	50	
	20	9.16145	9.16607	40			20	9.16574	9.17045	40	
	30	9.16159	9.16621	30			30	9.16588	9.17059	30	
	40	9.16174	9.16636	20			40	9.16602	9.17074	20	
	50	9.16188	9.16651	10			50	9.16617	9.17088	10	
21	0	9.16203	9.16665	0	39	26	0	9.16631	9.17103	0	34
	10	9.16217	9.16680	50			10	9.16645	9.17117	50	
	20	9.16231	9.16695	40			20	9.16659	9.17132	40	
	30	9.16246	9.16709	30			30	9.16673	9.17146	30	
	40	9.16260	9.16724	20			40	9.16688	9.17161	20	
	50	9.16274	9.16739	10			50	9.16702	9.17175	10	
22	0	9.16289	9.16753	0	38	27	0	9.16716	9.17190	0	33
	10	9.16303	9.16768	50			10	9.16730	9.17204	50	
	20	9.16317	9.16782	40			20	9.16744	9.17219	40	
	30	9.16331	9.16797	30			30	9.16758	9.17233	30	
	40	9.16346	9.16812	20			40	9.16773	9.17248	20	
	50	9.16360	9.16826	10			50	9.16787	9.17262	10	
23	0	9.16374	9.16841	0	37	28	0	9.16801	9.17277	0	32
	10	9.16389	9.16855	50			10	9.16815	9.17291	50	
	20	9.16403	9.16870	40			20	9.16829	9.17306	40	
	30	9.16417	9.16885	30			30	9.16843	9.17320	30	
	40	9.16431	9.16899	20			40	9.16857	9.17335	20	
	50	9.16446	9.16914	10			50	9.16871	9.17349	10	
24	0	9.16460	9.16928	0	36	29	0	9.16886	9.17363	0	31
	10	9.16474	9.16943	50			10	9.16900	9.17378	50	
	20	9.16488	9.16958	40			20	9.16914	9.17392	40	
	30	9.16503	9.16972	30			30	9.16928	9.17407	30	
	40	9.16517	9.16987	20			40	9.16942	9.17421	20	
	50	9.16531	9.17001	10			50	9.16956	9.17435	10	
25	0	9.16545	9.17016	0	35	30	0	9.16970	9.17450	0	30
'	''	cos	cotg	''	'	'	''	cos	cotg	''	'

81^0

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	9.16970	9.17450	0	30	35	0	9.17391	9.17880	0	25
	10	9.16984	9.17464	50			10	9.17405	9.17894	50	
	20	9.16998	9.17479	40			20	9.17419	9.17908	40	
	30	9.17012	9.17493	30			30	9.17433	9.17923	30	
	40	9.17027	9.17507	20			40	9.17447	9.17937	20	
	50	9.17041	9.17522	10			50	9.17460	9.17951	10	
31	0	9.17055	9.17536	0	29	36	0	9.17474	9.17965	0	24
	10	9.17069	9.17551	50			10	9.17488	9.17980	50	
	20	9.17083	9.17565	40			20	9.17502	9.17994	40	
	30	9.17097	9.17579	30			30	9.17516	9.18008	30	
	40	9.17111	9.17594	20			40	9.17530	9.18022	20	
	50	9.17125	9.17608	10			50	9.17544	9.18037	10	
32	0	9.17139	9.17622	0	28	37	0	9.17558	9.18051	0	23
	10	9.17153	9.17637	50			10	9.17572	9.18065	50	
	20	9.17167	9.17651	40			20	9.17586	9.18079	40	
	30	9.17181	9.17665	30			30	9.17599	9.18093	30	
	40	9.17195	9.17680	20			40	9.17613	9.18108	20	
	50	9.17209	9.17694	10			50	9.17627	9.18122	10	
33	0	9.17223	9.17708	0	27	38	0	9.17641	9.18136	0	22
	10	9.17237	9.17723	50			10	9.17655	9.18150	50	
	20	9.17251	9.17737	40			20	9.17669	9.18164	40	
	30	9.17265	9.17751	30			30	9.17683	9.18179	30	
	40	9.17279	9.17766	20			40	9.17697	9.18193	20	
	50	9.17293	9.17780	10			50	9.17710	9.18207	10	
34	0	9.17307	9.17794	0	26	39	0	9.17724	9.18221	0	21
	10	9.17321	9.17809	50			10	9.17738	9.18235	50	
	20	9.17335	9.17823	40			20	9.17752	9.18249	40	
	30	9.17349	9.17837	30			30	9.17766	9.18264	30	
	40	9.17363	9.17851	20			40	9.17780	9.18278	20	
	50	9.17377	9.17866	10			50	9.17793	9.18292	10	
35	0	9.17391	9.17880	0	25	40	0	9.17807	9.18306	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

8°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	9.17807	9.18306	0	20	45	0	9.18220	9.18728	0	15
	10	9.17821	9.18320	50			10	9.18233	9.18742	50	
	20	9.17835	9.18334	40			20	9.18247	9.18756	40	
	30	9.17849	9.18348	30			30	9.18261	9.18770	30	
	40	9.17862	9.18362	20			40	9.18274	9.18784	20	
	50	9.17876	9.18377	10			50	9.18288	9.18798	10	
41	0	9.17890	9.18391	0	19	46	0	9.18302	9.18812	0	14
	10	9.17904	9.18405	50			10	9.18315	9.18826	50	
	20	9.17918	9.18419	40			20	9.18329	9.18840	40	
	30	9.17931	9.18433	30			30	9.18343	9.18854	30	
	40	9.17945	9.18447	20			40	9.18356	9.18868	20	
	50	9.17959	9.18461	10			50	9.18370	9.18882	10	
42	0	9.17973	9.18475	0	18	47	0	9.18383	9.18896	0	13
	10	9.17986	9.18489	50			10	9.18397	9.18910	50	
	20	9.18000	9.18503	40			20	9.18411	9.18924	40	
	30	9.18014	9.18517	30			30	9.18424	9.18938	30	
	40	9.18028	9.18532	20			40	9.18438	9.18952	20	
	50	9.18041	9.18546	10			50	9.18452	9.18965	10	
43	0	9.18055	9.18560	0	17	48	0	9.18465	9.18979	0	12
	10	9.18069	9.18574	50			10	9.18479	9.18993	50	
	20	9.18083	9.18588	40			20	9.18492	9.19007	40	
	30	9.18096	9.18602	30			30	9.18506	9.19021	30	
	40	9.18110	9.18616	20			40	9.18519	9.19035	20	
	50	9.18124	9.18630	10			50	9.18533	9.19049	10	
44	0	9.18137	9.18644	0	16	49	0	9.18547	9.19063	0	11
	10	9.18151	9.18658	50			10	9.18560	9.19077	50	
	20	9.18165	9.18672	40			20	9.18574	9.19091	40	
	30	9.18179	9.18686	30			30	9.18587	9.19105	30	
	40	9.18192	9.18700	20			40	9.18601	9.19118	20	
	50	9.18206	9.18714	10			50	9.18614	9.19132	10	
45	0	9.18220	9.18728	0	15	50	0	9.18628	9.19146	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

81°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.18628	9.19146	0	10	55	0	9.19033	9.19561	0	5
	10	9.18642	9.19160	50			10	9.19046	9.19574	50	
	20	9.18655	9.19174	40			20	9.19059	9.19588	40	
	30	9.18669	9.19188	30			30	9.19073	9.19602	30	
	40	9.18682	9.19202	20			40	9.19086	9.19616	20	
	50	9.18696	9.19216	10			50	9.19100	9.19629	10	
51	0	9.18709	9.19229	0	9	56	0	9.19113	9.19643	0	4
	10	9.18723	9.19243	50			10	9.19126	9.19657	50	
	20	9.18736	9.19257	40			20	9.19140	9.19670	40	
	30	9.18750	9.19271	30			30	9.19153	9.19684	30	
	40	9.18763	9.19285	20			40	9.19167	9.19698	20	
	50	9.18777	9.19299	10			50	9.19180	9.19712	10	
52	0	9.18790	9.19312	0	8	57	0	9.19193	9.19725	0	3
	10	9.18804	9.19326	50			10	9.19207	9.19739	50	
	20	9.18817	9.19340	40			20	9.19220	9.19753	40	
	30	9.18831	9.19354	30			30	9.19233	9.19766	30	
	40	9.18844	9.19368	20			40	9.19247	9.19780	20	
	50	9.18858	9.19381	10			50	9.19260	9.19794	10	
53	0	9.18871	9.19395	0	7	58	0	9.19273	9.19807	0	2
	10	9.18885	9.19409	50			10	9.19287	9.19821	50	
	20	9.18898	9.19423	40			20	9.19300	9.19835	40	
	30	9.18912	9.19437	30			30	9.19313	9.19848	30	
	40	9.18925	9.19450	20			40	9.19327	9.19862	20	
	50	9.18938	9.19464	10			50	9.19340	9.19876	10	
54	0	9.18952	9.19478	0	6	59	0	9.19353	9.19889	0	1
	10	9.18965	9.19492	50			10	9.19367	9.19903	50	
	20	9.18979	9.19506	40			20	9.19380	9.19917	40	
	30	9.18992	9.19519	30			30	9.19393	9.19930	30	
	40	9.19006	9.19533	20			40	9.19407	9.19944	20	
	50	9.19019	9.19547	10			50	9.19420	9.19958	10	
55	0	9.19033	9.19561	0	5	60	0	9.19433	9.19971	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

9°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	9.19433	9.19971	0	60	5	0	9.19830	9.20378	0	55
	10	9.19447	9.19985	50			10	9.19843	9.20392	50	
	20	9.19460	9.19998	40			20	9.19857	9.20405	40	
	30	9.19473	9.20012	30			30	9.19870	9.20419	30	
	40	9.19486	9.20026	20			40	9.19883	9.20432	20	
	50	9.19500	9.20039	10			50	9.19896	9.20446	10	
1	0	9.19513	9.20053	0	59	6	0	9.19909	9.20459	0	54
	10	9.19526	9.20067	50			10	9.19922	9.20473	50	
	20	9.19539	9.20080	40			20	9.19935	9.20486	40	
	30	9.19553	9.20094	30			30	9.19949	9.20500	30	
	40	9.19566	9.20107	20			40	9.19962	9.20513	20	
	50	9.19579	9.20121	10			50	9.19975	9.20527	10	
2	0	9.19592	9.20134	0	58	7	0	9.19988	9.20540	0	53
	10	9.19606	9.20148	50			10	9.20001	9.20553	50	
	20	9.19619	9.20162	40			20	9.20014	9.20567	40	
	30	9.19632	9.20175	30			30	9.20027	9.20580	30	
	40	9.19645	9.20189	20			40	9.20040	9.20594	20	
	50	9.19659	9.20202	10			50	9.20053	9.20607	10	
3	0	9.19672	9.20216	0	57	8	0	9.20067	9.20621	0	52
	10	9.19685	9.20229	50			10	9.20080	9.20634	50	
	20	9.19698	9.20243	40			20	9.20093	9.20648	40	
	30	9.19711	9.20257	30			30	9.20106	9.20661	30	
	40	9.19725	9.20270	20			40	9.20119	9.20674	20	
	50	9.19738	9.20284	10			50	9.20132	9.20688	10	
4	0	9.19751	9.20297	0	56	9	0	9.20145	9.20701	0	51
	10	9.19764	9.20311	50			10	9.20158	9.20715	50	
	20	9.19777	9.20324	40			20	9.20171	9.20728	40	
	30	9.19791	9.20338	30			30	9.20184	9.20741	30	
	40	9.19804	9.20351	20			40	9.20197	9.20755	20	
	50	9.19817	9.20365	10			50	9.20210	9.20768	10	
5	0	9.19830	9.20378	0	55	10	0	9.20223	9.20782	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

80°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.20223	9.20782	0	50	15	0	9.20613	9.21182	0	45
	10	9.20236	9.20795	50			10	9.20626	9.21195	50	
	20	9.20250	9.20808	40			20	9.20639	9.21208	40	
	30	9.20263	9.20822	30			30	9.20652	9.21221	30	
	40	9.20276	9.20835	20			40	9.20665	9.21235	20	
	50	9.20289	9.20849	10			50	9.20678	9.21248	10	
11	0	9.20302	9.20862	0	49	16	0	9.20691	9.21261	0	44
	10	9.20315	9.20875	50			10	9.20703	9.21274	50	
	20	9.20328	9.20889	40			20	9.20716	9.21288	40	
	30	9.20341	9.20902	30			30	9.20729	9.21301	30	
	40	9.20354	9.20915	20			40	9.20742	9.21314	20	
	50	9.20367	9.20929	10			50	9.20755	9.21327	10	
12	0	9.20380	9.20942	0	48	17	0	9.20768	9.21341	0	43
	10	9.20393	9.20955	50			10	9.20781	9.21354	50	
	20	9.20406	9.20969	40			20	9.20794	9.21367	40	
	30	9.20419	9.20982	30			30	9.20807	9.21380	30	
	40	9.20432	9.20995	20			40	9.20819	9.21393	20	
	50	9.20445	9.21009	10			50	9.20832	9.21407	10	
13	0	9.20458	9.21022	0	47	18	0	9.20845	9.21420	0	42
	10	9.20471	9.21035	50			10	9.20858	9.21433	50	
	20	9.20484	9.21049	40			20	9.20871	9.21446	40	
	30	9.20497	9.21062	30			30	9.20884	9.21459	30	
	40	9.20510	9.21075	20			40	9.20897	9.21473	20	
	50	9.20522	9.21089	10			50	9.20909	9.21486	10	
14	0	9.20535	9.21102	0	46	19	0	9.20922	9.21499	0	41
	10	9.20548	9.21115	50			10	9.20935	9.21512	50	
	20	9.20561	9.21128	40			20	9.20948	9.21525	40	
	30	9.20574	9.21142	30			30	9.20961	9.21538	30	
	40	9.20587	9.21155	20			40	9.20974	9.21552	20	
	50	9.20600	9.21168	10			50	9.20986	9.21565	10	
15	0	9.20613	9.21182	0	45	20	0	9.20999	9.21578	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

9⁰

′	″	sin	tang	″	′
20	0	9.20999	9.21578	0	40
	10	9.21012	9.21591	50	
	20	9.21025	9.21604	40	
	30	9.21038	9.21617	30	
	40	9.21050	9.21631	20	
	50	9.21063	9.21644	10	
21	0	9.21076	9.21657	0	39
	10	9.21089	9.21670	50	
	20	9.21102	9.21683	40	
	30	9.21114	9.21696	30	
	40	9.21127	9.21709	20	
	50	9.21140	9.21722	10	
22	0	9.21153	9.21736	0	38
	10	9.21165	9.21749	50	
	20	9.21178	9.21762	40	
	30	9.21191	9.21775	30	
	40	9.21204	9.21788	20	
	50	9.21216	9.21801	10	
23	0	9.21229	9.21814	0	37
	10	9.21242	9.21827	50	
	20	9.21255	9.21840	40	
	30	9.21267	9.21853	30	
	40	9.21280	9.21866	20	
	50	9.21293	9.21880	10	
24	0	9.21306	9.21893	0	36
	10	9.21318	9.21906	50	
	20	9.21331	9.21919	40	
	30	9.21344	9.21932	30	
	40	9.21356	9.21945	20	
	50	9.21369	9.21958	10	
25	0	9.21382	9.21971	0	35
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
25	0	9.21382	9.21971	0	35
	10	9.21394	9.21984	50	
	20	9.21407	9.21997	40	
	30	9.21420	9.22010	30	
	40	9.21433	9.22023	20	
	50	9.21445	9.22036	10	
26	0	9.21458	9.22049	0	34
	10	9.21471	9.22062	50	
	20	9.21483	9.22075	40	
	30	9.21496	9.22088	30	
	40	9.21509	9.22101	20	
	50	9.21521	9.22114	10	
27	0	9.21534	9.22127	0	33
	10	9.21546	9.22140	50	
	20	9.21559	9.22153	40	
	30	9.21572	9.22166	30	
	40	9.21584	9.22179	20	
	50	9.21597	9.22192	10	
28	0	9.21610	9.22205	0	32
	10	9.21622	9.22218	50	
	20	9.21635	9.22231	40	
	30	9.21648	9.22244	30	
	40	9.21660	9.22257	20	
	50	9.21673	9.22270	10	
29	0	9.21685	9.22283	0	31
	10	9.21698	9.22296	50	
	20	9.21711	9.22309	40	
	30	9.21723	9.22322	30	
	40	9.21736	9.22335	20	
	50	9.21748	9.22348	10	
30	0	9.21761	9.22361	0	30
′	″	cos	cotg	″	′

80⁰

9°

'	"	sin	tang	"	'	'	"	sin	tang	"	'
30	0	9.21761	9.22361	0	30	35	0	9.22137	9.22747	0	25
	10	9.21774	9.22374	50			10	9.22149	9.22760	50	
	20	9.21786	9.22387	40			20	9.22162	9.22773	40	
	30	9.21799	9.22399	30			30	9.22174	9.22786	30	
	40	9.21811	9.22412	20			40	9.22187	9.22798	20	
	50	9.21824	9.22425	10			50	9.22199	9.22811	10	
31	0	9.21836	9.22438	0	29	36	0	9.22211	9.22824	0	24
	10	9.21849	9.22451	50			10	9.22224	9.22837	50	
	20	9.21861	9.22464	40			20	9.22236	9.22850	40	
	30	9.21874	9.22477	30			30	9.22249	9.22862	30	
	40	9.21887	9.22490	20			40	9.22261	9.22875	20	
	50	9.21899	9.22503	10			50	9.22274	9.22888	10	
32	0	9.21912	9.22516	0	28	37	0	9.22286	9.22901	0	23
	10	9.21924	9.22528	50			10	9.22299	9.22913	50	
	20	9.21937	9.22541	40			20	9.22311	9.22926	40	
	30	9.21949	9.22554	30			30	9.22323	9.22939	30	
	40	9.21962	9.22567	20			40	9.22336	9.22952	20	
	50	9.21974	9.22580	10			50	9.22348	9.22965	10	
33	0	9.21987	9.22593	0	27	38	0	9.22361	9.22977	0	22
	10	9.21999	9.22606	50			10	9.22373	9.22990	50	
	20	9.22012	9.22619	40			20	9.22385	9.23003	40	
	30	9.22024	9.22631	30			30	9.22398	9.23016	30	
	40	9.22037	9.22644	20			40	9.22410	9.23028	20	
	50	9.22049	9.22657	10			50	9.22423	9.23041	10	
34	0	9.22062	9.22670	0	26	39	0	9.22435	9.23054	0	21
	10	9.22074	9.22683	50			10	9.22447	9.23067	50	
	20	9.22087	9.22696	49			20	9.22460	9.23079	40	
	30	9.22099	9.22709	30			30	9.22472	9.23092	30	
	40	9.22112	9.22721	20			40	9.22484	9.23105	20	
	50	9.22124	9.22734	10			50	9.22497	9.23118	10	
35	0	9.22137	9.22747	0	25	40	0	9.22509	9.23130	0	20
'	"	cos	cotg	"	'	'	"	cos	cotg	"	'

80°

9°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	9.22509	9.23130	0	20	45	0	9.22878	9.23510	0	15
	10	9.22522	9.23143	50			10	9.22891	9.23523	50	
	20	9.22534	9.23156	40			20	9.22903	9.23535	40	
	30	9.22546	9.23168	30			30	9.22915	9.23548	30	
	40	9.22559	9.23181	20			40	9.22927	9.23561	20	
	50	9.22571	9.23194	10			50	9.22940	9.23573	10	
41	0	9.22583	9.23206	0	19	46	0	9.22952	9.23586	0	14
	10	9.22596	9.23219	50			10	9.22964	9.23598	50	
	20	9.22608	9.23232	40			20	9.22976	9.23611	40	
	30	9.22620	9.23245	30			30	9.22989	9.23624	30	
	40	9.22633	9.23257	20			40	9.23001	9.23636	20	
	50	9.22645	9.23270	10			50	9.23013	9.23649	10	
42	0	9.22657	9.23283	0	18	47	0	9.23025	9.23661	0	13
	10	9.22670	9.23295	50			10	9.23037	9.23674	50	
	20	9.22682	9.23308	40			20	9.23050	9.23687	40	
	30	9.22694	9.23321	30			30	9.23062	9.23699	30	
	40	9.22706	9.23333	20			40	9.23074	9.23712	20	
	50	9.22719	9.23346	10			50	9.23086	9.23724	10	
43	0	9.22731	9.23359	0	17	48	0	9.23098	9.23737	0	12
	10	9.22743	9.23371	50			10	9.23111	9.23749	50	
	20	9.22756	9.23384	40			20	9.23123	9.23762	40	
	30	9.22768	9.23397	30			30	9.23135	9.23774	30	
	40	9.22780	9.23409	20			40	9.23147	9.23787	20	
	50	9.22793	9.23422	10			50	9.23159	9.23799	10	
44	0	9.22805	9.23435	0	16	49	0	9.23171	9.23812	0	11
	10	9.22817	9.23447	50			10	9.23184	9.23825	50	
	20	9.22829	9.23460	40			20	9.23196	9.23837	40	
	30	9.22842	9.23472	30			30	9.23208	9.23850	30	
	40	9.22854	9.23485	20			40	9.23220	9.23862	20	
	50	9.22866	9.23498	10			50	9.23232	9.23875	10	
54	0	9.22878	9.23510	0	15	50	0	9.23244	9.23887	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

80°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.23244	9.23887	0	10	55	0	9.23607	9.24261	0	5
	10	9.23257	9.23900	50			10	9.23619	9.24273	50	
	20	9.23269	9.23912	40			20	9.23631	9.24286	40	
	30	9.23281	9.23925	30			30	9.23643	9.24298	30	
	40	9.23293	9.23937	20			40	9.23655	9.24311	20	
	50	9.23305	9.23950	10			50	9.23667	9.24323	10	
51	0	9.23317	9.23962	0	9	56	0	9.23679	9.24335	0	4
	10	9.23329	9.23975	50			10	9.23691	9.24348	50	
	20	9.23341	9.23987	40			20	9.23703	9.24360	40	
	30	9.23354	9.24000	30			30	9.23716	9.24373	30	
	40	9.23366	9.24012	20			40	9.23728	9.24385	20	
	50	9.23378	9.24025	10			50	9.23740	9.24397	10	
52	0	9.23390	9.24037	0	8	57	0	9.23752	9.24410	0	3
	10	9.23402	9.24050	50			10	9.23764	9.24422	50	
	20	9.23414	9.24062	40			20	9.23776	9.24434	40	
	30	9.23426	9.24074	30			30	9.23788	9.24447	30	
	40	9.23438	9.24087	20			40	9.23800	9.24459	20	
	50	9.23450	9.24099	10			50	9.23812	9.24472	10	
53	0	9.23462	9.24112	0	7	58	0	9.23823	9.24484	0	2
	10	9.23475	9.24124	50			10	9.23835	9.24496	50	
	20	9.23487	9.24137	40			20	9.23847	9.24509	40	
	30	9.23499	9.24149	30			30	9.23859	9.24521	30	
	40	9.23511	9.24162	20			40	9.23871	9.24533	20	
	50	9.23523	9.24174	10			50	9.23883	9.24546	10	
54	0	9.23535	9.24186	0	6	59	0	9.23895	9.24558	0	1
	10	9.23547	9.24199	50			10	9.23907	9.24570	50	
	20	9.23559	9.24211	40			20	9.23919	9.24583	40	
	30	9.23571	9.24224	30			30	9.23931	9.24595	30	
	40	9.23583	9.24236	20			40	9.23943	9.24607	20	
	50	9.23595	9.24249	10			50	9.23955	9.24620	10	
55	0	9.23607	9.24261	0	5	60	0	9.23967	9.24632	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

10°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
0	0	9.23967	9.24632	0	60	5	0	9.24324	9.25000	0	55
	10	9.23979	9.24644	50			10	9.24336	9.25012	50	
	20	9.23991	9.24656	40			20	9.24347	9.25024	40	
	30	9.24003	9.24669	30			30	9.24359	9.25036	30	
	40	9.24015	9.24681	20			40	9.24371	9.25049	20	
	50	9.24027	9.24693	10			50	9.24383	9.25061	10	
1	0	9.24039	9.24706	0	59	6	0	9.24395	9.25073	0	54
	10	9.24051	9.24718	50			10	9.24407	9.25085	50	
	20	9.24062	9.24730	40			20	9.24418	9.25097	40	
	30	9.24074	9.24743	30			30	9.24430	9.25110	30	
	40	9.24086	9.24755	20			40	9.24442	9.25122	20	
	50	9.24098	9.24767	10			50	9.24454	9.25134	10	
2	0	9.24110	9.24779	0	58	7	0	9.24466	9.25146	0	53
	10	9.24122	9.24792	50			10	9.24477	9.25158	50	
	20	9.24134	9.24804	40			20	9.24489	9.25170	40	
	30	9.24146	9.24816	30			30	9.24501	9.25183	30	
	40	9.24158	9.24828	20			40	9.24513	9.25195	20	
	50	9.24170	9.24841	10			50	9.24525	9.25207	10	
3	0	9.24181	9.24853	0	57	8	0	9.24536	9.25219	0	52
	10	9.24193	9.24865	50			10	9.24548	9.25231	50	
	20	9.24205	9.24877	40			20	9.24560	9.25243	40	
	30	9.24217	9.24890	30			30	9.24572	9.25256	30	
	40	9.24229	9.24902	20			40	9.24583	9.25268	20	
	50	9.24241	9.24914	10			50	9.24595	9.25280	10	
4	0	9.24253	9.24926	0	56	9	0	9.24607	9.25292	0	51
	10	9.24264	9.24939	50			10	9.24619	9.25304	50	
	20	9.24276	9.24951	40			20	9.24630	9.25316	40	
	30	9.24288	9.24963	30			30	9.24642	9.25328	30	
	40	9.24300	9.24975	20			40	9.24654	9.25341	20	
	50	9.24312	9.24988	10			50	9 24666	9.25353	10	
5	0	9.24324	9.25000	0	55	10	0	9.24677	9.25365	0	50
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

79°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.24677	9.25365	0	50	15	0	9.25028	9.25727	0	45
	10	9.24689	9.25377	50			10	9.25040	9.25739	50	
	20	9.24701	9.25389	40			20	9.25052	9.25751	40	
	30	9.24713	9.25401	30			30	9.25063	9.25763	30	
	40	9.24724	9.25413	20			40	9.25075	9.25775	20	
	50	9.24736	9.25425	10			50	9.25086	9.25787	10	
11	0	9.24748	9.25437	0	49	16	0	9.25098	9.25799	0	44
	10	9.24760	9.25450	50			10	9.25110	9.25811	50	
	20	9.24771	9.25462	40			20	9.25121	9.25823	40	
	30	9.24783	9.25474	30			30	9.25133	9.25835	30	
	40	9.24795	9.25486	20			40	9.25144	9.25847	20	
	50	9.24806	9.25498	10			50	9.25156	9.25859	10	
12	0	9.24818	9.25510	0	48	17	0	9.25168	9.25871	0	43
	10	9.24830	9.25522	50			10	9.25179	9.25883	50	
	20	9.24842	9.25534	40			20	9.25191	9.25895	40	
	30	9.24853	9.25546	30			30	9.25203	9.25907	30	
	40	9.24865	9.25558	20			40	9.25214	9.25919	20	
	50	9.24877	9.25570	10			50	9.25226	9.25931	10	
13	0	9.24888	9.25582	0	47	18	0	9.25237	9.25943	0	42
	10	9.24900	9.25594	50			10	9.25249	9.25955	50	
	20	9.24912	9.25607	40			20	9.25260	9.25967	40	
	30	9.24923	9.25619	30			30	9.25272	9.25979	30	
	40	9.24935	9.25631	20			40	9.25284	9.25991	20	
	50	9.24947	9.25643	10			50	9.25295	9.26003	10	
14	0	9.24958	9.25655	0	46	19	0	9.25307	9.26015	0	41
	10	9.24970	9.25667	50			10	9.25318	9.26027	50	
	20	9.24982	9.25679	40			20	9.25330	9.26039	40	
	30	9.24993	9.25691	30			30	9.25341	9.26050	30	
	40	9.25005	9.25703	20			40	9.25353	9.26062	20	
	50	9.25017	9.25715	10			50	9.25365	9.26074	10	
15	0	9.25028	9.25727	0	45	20	0	9.25376	9.26086	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

10⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
20	0	9.25376	9.26086	0	40	25	0	9.25721	9.26443	0	35
	10	9.25388	9.26098	50			10	9.25733	9.26455	50	
	20	9.25399	9.26110	40			20	9.25744	9.26467	40	
	30	9.25411	9.26122	30			30	9.25755	9.26478	30	
	40	9.25422	9.26134	20			40	9.25767	9.26490	20	
	50	9.25434	9.26146	10			50	9.25778	9.26502	10	
21	0	9.25445	9.26158	0	39	26	0	9.25790	9.26514	0	34
	10	9.25457	9.26170	50			10	9.25801	9.26526	50	
	20	9.25468	9.26182	40			20	9.25813	9.26537	40	
	30	9.25480	9.26194	30			30	9.25824	9.26549	30	
	40	9.25491	9.26205	20			40	9.25835	9.26561	20	
	50	9.22503	9.26217	10			50	9.25847	9.26573	10	
22	0	9.25514	9.26229	0	38	27	0	9.25858	9.26585	0	33
	10	9.25526	9.26241	50			10	9.25870	9.26597	50	
	20	9.25537	9.26253	40			20	9.25881	9.26608	40	
	30	9.25549	9.26265	30			30	9.25893	9.26620	30	
	40	9.25560	9.26277	20			40	9.25904	9.26632	20	
	50	9.25572	9.26289	10			50	9.25915	9.26644	10	
23	0	9.25583	9.26301	0	37	28	0	9.25927	9.26655	0	32
	10	9.25595	9.26312	50			10	9.25938	9.26667	50	
	20	9.25606	9.26324	40			20	9.25950	9.26679	40	
	30	9.25618	9.26336	30			30	9.25961	9.26691	30	
	40	9.25629	9.26348	20			40	9.25972	9.26703	20	
	50	9.25641	9.26360	10			50	9.25984	9.26714	10	
24	0	9.25652	9.26372	0	36	29	0	9.25995	9.26726	0	31
	10	9.25664	9.26384	50			10	9.26006	9.26738	50	
	20	9.25675	9.26395	40			20	9.26018	9.26750	40	
	30	9.25687	9.26407	30			30	9.26029	9.26761	30	
	40	9.25698	9.26419	20			40	9.26041	9.26773	20	
	50	9.25710	9.26431	10			50	9.26052	9.26785	10	
25	0	9.25721	9.26443	0	35	30	0	9.26063	9.26797	0	30
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

79⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	9.26063	9.26797	0	30	35	0	9.26403	9.27148	0	25
	10	9.26075	9.26808	50			10	9.26414	9.27160	50	
	20	9.26086	9.26820	40			20	9.26425	9.27171	40	
	30	9.26097	9.26832	30			30	9.26437	9.27183	30	
	40	9.26109	9.26844	20			40	9.26448	9.27195	20	
	50	9.26120	9.26855	10			50	9.26459	9.27206	10	
31	0	9.26131	9.26867	0	29	36	0	9.26470	9.27218	0	24
	10	9.26143	9.26879	50			10	9.26482	9.27229	50	
	20	9.26154	9.26891	40			20	9.26493	9.27241	40	
	30	9.26165	9.26902	30			30	9.26504	9.27253	30	
	40	9.26177	9.26914	20			40	9.26515	9.27264	20	
	50	9.26188	9.26926	10			50	9.26527	9.27276	10	
32	0	9.26199	9.26937	0	28	37	0	9.26538	9.27288	0	23
	10	9.26211	9.26949	50			10	9.26549	9.27299	50	
	20	9.26222	9.26961	40			20	9.26560	9.27311	40	
	30	9.26233	9.26973	30			30	9.26571	9.27322	30	
	40	9.26245	9.26984	20			40	9.26583	9.27334	20	
	50	9.26256	9.26996	10			50	9.26594	9.27346	10	
33	0	9.26267	9.27008	0	27	38	0	9.26605	9.27357	0	22
	10	9.26279	9.27019	50			10	9.26616	9.27369	50	
	20	9.26290	9.27031	40			20	9.26628	9.27381	40	
	30	9.26301	9.27043	30			30	9.26639	9.27392	30	
	40	9.26312	9.27054	20			40	9.26650	9.27404	20	
	50	9.26324	9.27066	10			50	9.26661	9.27415	10	
34	0	9.26335	9.27078	0	26	39	0	9.26672	9.27427	0	21
	10	9.26346	9.27090	50			10	9.26684	9.27439	50	
	20	9.26358	9.27101	40			20	9.26695	9.27450	40	
	30	9.26369	9.27113	30			30	9.26706	9.27462	30	
	40	9.26380	9.27125	20			40	9.26717	9.27473	20	
	50	9.26391	9.27136	10			50	9.26728	9.27485	10	
35	0	9.26403	9.27148	0	25	40	0	9.26739	9.27496	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

10⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	9.26739	9.27496	0	20	45	0	9.27073	9.27842	0	15
	10	9.26751	9.27508	50			10	9.27085	9.27854	50	
	20	9.26762	9.27520	40			20	9.27096	9.27865	40	
	30	9.26773	9.27531	30			30	9.27107	9.27877	30	
	40	9.26784	9.27543	20			40	9.27118	9.27888	20	
	50	9.26795	9.27554	10			50	9.27129	9.27900	10	
41	0	9.26806	9.27566	0	19	46	0	9.27140	9.27911	0	14
	10	9.26818	9.27577	50			10	9.27151	9.27923	50	
	20	9.26829	9.27589	40			20	9.27162	9.27934	40	
	30	9.26840	9.27601	30			30	9.27173	9.27946	30	
	40	9.26851	9.27612	20			40	9.27184	9.27957	20	
	50	9.26862	9.27624	10			50	9.27195	9.27969	10	
42	0	9.26873	9.27635	0	18	47	0	9.27206	9.27980	0	13
	10	9.26885	9.27647	50			10	9.27217	9.27992	50	
	20	9.26896	9.27658	40			20	9.27228	9.28003	40	
	30	9.26907	9.27670	30			30	9.27240	9.28014	30	
	40	9.26918	9.27681	20			40	9.27251	9.28026	20	
	50	9.26929	9.27693	10			50	9.27262	9.28037	10	
43	0	9.26940	9.27704	0	17	48	0	9.27273	9.28049	0	12
	10	9.26951	9.27716	50			10	9.27284	9.28060	50	
	20	9.26962	9.27727	40			20	9.27295	9.28072	40	
	30	9.26974	9.27739	30			30	9.27306	9.28083	30	
	40	9.26985	9.27750	20			40	9.27317	9.28095	20	
	50	9.26996	9.27762	10			50	9.27328	9.28106	10	
44	0	9.27007	9.27773	0	16	49	0	9.27339	9.28117	0	11
	10	9.27018	9.27785	50			10	9.27350	9.28129	50	
	20	9.27029	9.27796	40			20	9.27361	9.28140	40	
	30	9.27040	9.27808	30			30	9.27372	9.28152	30	
	40	9.27051	9.27819	20			40	9.27383	9.28163	20	
	50	9.27062	9.27831	10			50	9.27394	9.28174	10	
45	0	9.27073	9.27842	0	15	50	0	9.27405	9.28186	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

79⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.27405	9.28186	0	10	55	0	9.27734	9.28527	0	5
	10	9.27416	9.28197	50			10	9.27745	9.28538	50	
	20	9.27427	9.28209	40			20	9.27755	9.28549	40	
	30	9.27438	9.28220	30			30	9.27766	9.28561	30	
	40	9.27449	9.28231	20			40	9.27777	9.28572	20	
	50	9.27460	9.28243	10			50	9.27788	9.28583	10	
51	0	9.27471	9.28254	0	9	56	0	9.27799	9.28595	0	4
	10	9.27482	9.28266	50			10	9.27810	9.28606	50	
	20	9.27493	9.28277	40			20	9.27821	9.28617	40	
	30	9.27504	9.28288	30			30	9.27832	9.28629	30	
	40	9.27515	9.28300	20			40	9.27843	9.28640	20	
	50	9.27526	9.28311	10			50	9.27854	9.28651	10	
52	0	9.27537	9.28323	0	8	57	0	9.27864	9.28662	0	3
	10	9.27548	9.28334	50			10	9.27875	9.28674	50	
	20	9.27559	9.28345	40			20	9.27886	9.28685	40	
	30	9.27570	9.28357	30			30	9.27897	9.28696	30	
	40	9.27581	9.28368	20			40	9.27908	9.28708	20	
	50	9.27591	9.28379	10			50	9.27919	9.28719	10	
53	0	9.27602	9.28391	0	7	58	0	9.27930	9.28730	0	2
	10	9.27613	9.28402	50			10	9.27941	9.28741	50	
	20	9.27624	9.28413	40			20	9.27951	9.28753	40	
	30	9.27635	9.28425	30			30	9.27962	9.28764	30	
	40	9.27646	9.28436	20			40	9.27973	9.28775	20	
	50	9.27657	9.28447	10			50	9.27984	9.28786	10	
54	0	9.27668	9.28459	0	6	59	0	9.27995	9.28798	0	1
	10	9.27679	9.28470	50			10	9.28006	9.28809	50	
	20	9.27690	9.28481	40			20	9.28017	9.28820	40	
	30	9.27701	9.28493	30			30	9.28027	9.28831	30	
	40	9.27712	9.28504	20			40	9.28038	9.28843	20	
	50	9.27723	9.28515	10			50	9.28049	9.28854	10	
55	0	9.27734	9.28527	0	5	60	0	9.28060	9.28865	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

11°

′	″	sin	tang	″	′
0	0	9.28060	9.28865	0	60
	10	9.28071	9.28876	50	
	20	9.28082	9.28888	40	
	30	9.28092	9.28899	30	
	40	9.28103	9.28910	20	
	50	9.28114	9.28921	10	
1	0	9.28125	9.28932	0	59
	10	9.28136	9.28944	50	
	20	9.28146	9.28955	40	
	30	9.28157	9.28966	30	
	40	9.28168	9.28978	20	
	50	9.28179	9.28989	10	
2	0	9.28190	9.29000	0	58
	10	9.28200	9.29011	50	
	20	9.28211	9.29022	40	
	30	9.28222	9.29034	30	
	40	9.28233	9.29045	20	
	50	9.28244	9.29056	10	
3	0	9.28254	9.29067	0	57
	10	9.28265	9.29078	50	
	20	9.28276	9.29090	40	
	30	9.28287	9.29101	30	
	40	9.28298	9.29112	20	
	50	9.28308	9.29123	10	
4	0	9.28319	9.29134	0	56
	10	9.28330	9.29145	50	
	20	9.28341	9.29157	40	
	30	9.28351	9.29168	30	
	40	9.28362	9.29179	20	
	50	9.28373	9.29190	10	
5	0	9.28384	9.29201	0	55
	10	9.28394	9.29212	50	
	20	9.28405	9.29224	40	
	30	9.28416	9.29235	30	
	40	9.28427	9.29246	20	
	50	9.28437	9.29257	10	
6	0	9.28448	9.29268	0	54
	10	9.28459	9.29279	50	
	20	9.28469	9.29290	40	
	30	9.28480	9.29302	30	
	40	9.28491	9.29313	20	
	50	9.28502	9.29324	10	
7	0	9.28512	9.29335	0	53
	10	9.28523	9.29346	50	
	20	9.28534	9.29357	40	
	30	9.28545	9.29368	30	
	40	9.28555	9.29379	20	
	50	9.28566	9.29391	10	
8	0	9.28577	9.29402	0	52
	10	9.28587	9.29413	50	
	20	9.28598	9.29424	40	
	30	9.28609	9.29435	30	
	40	9.28619	9.29446	20	
	50	9.28630	9.29457	10	
9	0	9.28641	9.29468	0	51
	10	9.28651	9.29479	50	
	20	9.28662	9.29491	40	
	30	9.28673	9.29502	30	
	40	9.28683	9.29513	20	
	50	9.28694	9.29524	10	
10	0	9.28705	9.29535	0	50
′	″	cos	cotg	″	′

78°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.28705	9.29535	0	50	15	0	9.29024	9.29866	0	45
	10	9.28715	9.29546	50			10	9.29034	9.29877	50	
	20	9.28726	9.29557	40			20	9.29045	9.29888	40	
	30	9.28737	9.29568	30			30	9.29055	9.29899	30	
	40	9.28747	9.29579	20			40	9.29066	9.29910	20	
	50	9.28758	9.29590	10			50	9.29076	9.29921	10	
11	0	9.28769	9.29601	0	49	16	0	9.29087	9.29932	0	44
	10	9.28779	9.29612	50			10	9.29098	9.29943	50	
	20	9.28790	9.29623	40			20	9.29108	9.29954	40	
	30	9.28801	9.29635	30			30	9.29119	9.29965	30	
	40	9.28811	9.29646	20			40	9.29129	9.29976	20	
	50	9.28822	9.29657	10			50	9.29140	9.29987	10	
12	0	9.28833	9.29668	0	48	17	0	9.29150	9.29998	0	43
	10	9.28843	9.29679	50			10	9.29161	9.30009	50	
	20	9.28854	9.29690	40			20	9.29172	9.30020	40	
	30	9.28864	9.29701	30			30	9.29182	9.30031	30	
	40	9.28875	9.29712	20			40	9.29193	9.30042	20	
	50	9.28886	9.29723	10			50	9.29203	9.30053	10	
13	0	9.28896	9.29734	0	47	18	0	9.29214	9.30064	0	42
	10	9.28907	9.29745	50			10	9.29224	9.30075	50	
	20	9.28918	9.29756	40			20	9.29235	9.30086	40	
	30	9.28928	9.29767	30			30	9.29245	9.30097	30	
	40	9.28939	9.29778	20			40	9.29256	9.30108	20	
	50	9.28949	9.29789	10			50	9.29266	9.30119	10	
14	0	9.28960	9.29800	0	46	19	0	9.29277	9.30130	0	41
	10	9.28971	9.29811	50			10	9.29287	9.30140	50	
	20	9.28981	9.29822	40			20	9.29298	9.30151	40	
	30	9.28992	9.29833	30			30	9.29308	9.30162	30	
	40	9.29002	9.29844	20			40	9.29319	9.30173	20	
	50	9.29013	9.29855	10			50	9.29329	9.30184	10	
15	0	9.29024	9.29866	0	45	20	0	9.29340	9.30195	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

′	″	sin	tang	″	′
20	0	9.29340	9.30195	0	40
	10	9.29350	9.30206	50	
	20	9.29361	9.30217	40	
	30	9.29371	9.30228	30	
	40	9.29382	9.30239	20	
	50	9.29392	9.30250	10	
21	0	9.29403	9.30261	0	39
	10	9.29413	9.30272	50	
	20	9.29424	9.30282	40	
	30	9.29434	9.30293	30	
	40	9.29445	9.30304	20	
	50	9.29455	9.30315	10	
22	0	9.29466	9.30326	0	38
	10	9.29476	9.30337	50	
	20	9.29487	9.30348	40	
	30	9.29497	9.30359	30	
	40	9.29508	9.30370	20	
	50	9.29518	9.30381	10	
23	0	9.29529	9.30391	0	37
	10	9.29539	9.30402	50	
	20	9.29550	9.30413	40	
	30	9.29560	9.30424	30	
	40	9.29570	9.30435	20	
	50	9.29581	9.30446	10	
24	0	9.29591	9.30457	0	36
	10	9.29602	9.30468	50	
	20	9.29612	9.30478	40	
	30	9.29623	9.30489	30	
	40	9.29633	9.30500	20	
	50	9.29643	9.30511	10	
25	0	9.29654	9.30522	0	35
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
25	0	9.29654	9.30522	0	35
	10	9.29664	9.30533	50	
	20	9.29675	9.30544	40	
	30	9.29685	9.30554	30	
	40	9.29696	9.30565	20	
	50	9.29706	9.30576	10	
26	0	9.29716	9.30587	0	34
	10	9.29727	9.30598	50	
	20	9.29737	9.30609	40	
	30	9.29748	9.30619	30	
	40	9.29758	9.30630	20	
	50	9.29768	9.30641	10	
27	0	9.29779	9.30652	0	33
	10	9.29789	9.30663	50	
	20	9.29800	9.30674	40	
	30	9.29810	9.30684	30	
	40	9.29820	9.30695	20	
	50	9.29831	9.30706	10	
28	0	9.29841	9.30717	0	32
	10	9.29852	9.30728	50	
	20	9.29862	9.30738	40	
	30	9.29872	9.30749	30	
	40	9.29883	9.30760	20	
	50	9.29893	9.30771	10	
29	0	9.29903	9.30782	0	31
	10	9.29914	9.30792	50	
	20	9.29924	9.30803	40	
	30	9.29934	9.30814	30	
	40	9.29945	9.30825	20	
	50	9.29955	9.30835	10	
30	0	9.29966	9.30846	0	30
′	″	cos	cotg	″	′

′	″	sin	tang	″	′	′	″	sin	tang	″	′
30	0	9.29966	9.30846	0	30	35	0	9.30275	9.31168	0	25
	10	9.29976	9.30857	50			10	9.30285	9.31179	50	
	20	9.29986	9.30868	40			20	9.30295	9.31190	40	
	30	9.29997	9.30879	30			30	9.30306	9.31201	30	
	40	9.30007	9.30889	20			40	9.30316	9.31211	20	
	50	9.30017	9.30900	10			50	9.30326	9.31222	10	
31	0	9.30028	9.30911	0	29	36	0	9.30336	9.31233	0	24
	10	9.30038	9.30922	50			10	9.30347	9.31243	50	
	20	9.30048	9.30932	40			20	9.30357	9.31254	40	
	30	9.30059	9.30943	30			30	9.30367	9.31265	30	
	40	9.30069	9.30954	20			40	9.30377	9.31275	20	
	50	9.30079	9.30965	10			50	9.30388	9.31286	10	
32	0	9.30090	9.30975	0	28	37	0	9.30398	9.31297	0	23
	10	9.30100	9.30986	50			10	9.30408	9.31307	50	
	20	9.30110	9.30997	40			20	9.30418	9.31318	40	
	30	9.30120	9.31008	30			30	9.30429	9.31329	30	
	40	9.30131	9.31018	20			40	9.30439	9.31339	20	
	50	9.30141	9.31029	10			50	9.30449	9.31350	10	
33	0	9.30151	9.31040	0	27	38	0	9.30459	9.31361	0	22
	10	9.30162	9.31051	50			10	9.30470	9.31371	50	
	20	9.30172	9.31061	40			20	9.30480	9.31382	40	
	30	9.30182	9.31072	30			30	9.30490	9.31393	30	
	40	9.30193	9.31083	20			40	9.30500	9.31403	20	
	50	9.30203	9.31093	10			50	9.30510	9.31414	10	
34	0	9.30213	9.31104	0	26	39	0	9.30521	9.31425	0	21
	10	9.30223	9.31115	50			10	9.30531	9.31435	50	
	20	9.30234	9.31126	40			20	9.30541	9.31446	40	
	30	9.30244	9.31136	30			30	9.30551	9.31457	30	
	40	9.30254	9.31147	20			40	9.30561	9.31467	20	
	50	9.30265	9.31158	10			50	9.30572	9.31478	10	
35	0	9.30275	9.31168	0	25	40	0	9.30582	9.31489	0	20
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

11⁰

'	''	sin	tang	''	'	'	''	sin	tang	''	'
40	0	9.30582	9.31489	0	20	45	0	9.30887	9.31806	0	15
	10	9.30592	9.31499	50			10	9.30897	9.31817	50	
	20	9.30602	9.31510	40			20	9.30907	9.31828	40	
	30	9.30612	9.31520	30			30	9.30917	9.31838	30	
	40	9.30623	9.31531	20			40	9.30927	9.31849	20	
	50	9.30633	9.31542	10			50	9.30937	9.31859	10	
41	0	9.30643	9.31552	0	19	46	0	9.30947	9.31870	0	14
	10	9.30653	9.31563	50			10	9.30957	9.31880	50	
	20	9.30663	9.31573	40			20	9.30968	9.31891	40	
	30	9.30674	9.31584	30			30	9.30978	9.31901	30	
	40	9.30684	9.31595	20			40	9.30988	9.31912	20	
	50	9.30694	9.31605	10			50	9.30998	9.31922	10	
42	0	9.30704	9.31616	0	18	47	0	9.31008	9.31933	0	13
	10	9.30714	9.31627	50			10	9.31018	9.31943	50	
	20	9.30724	9.31637	40			20	9.31028	9.31954	40	
	30	9.30735	9.31648	30			30	9.31038	9.31965	30	
	40	9.30745	9.31658	20			40	9.31048	9.31975	20	
	50	9.30755	9.31669	10			50	9.31058	9.31986	10	
43	0	9.30765	9.31679	0	17	48	0	9.31068	9.31996	0	12
	10	9.30775	9.31690	50			10	9.31079	9.32007	50	
	20	9.30785	9.31701	40			20	9.31089	9.32017	40	
	30	9.30795	9.31711	30			30	9.31099	9.32028	30	
	40	9.30806	9.31722	20			40	9.31109	9.32038	20	
	50	9.30816	9.31732	10			50	9.31119	9.32049	10	
44	0	9.30826	9.31743	0	16	49	0	9.31129	9.32059	0	11
	10	9.30836	9.31754	50			10	9.31139	9.32070	50	
	20	9.30846	9.31764	40			20	9.31149	9.32080	40	
	30	9.30856	9.31775	30			30	9.31159	9.32091	30	
	40	9.30866	9.31785	20			40	9.31169	9.32101	20	
	50	9.30877	9.31796	10			50	9.31179	9.32112	10	
45	0	9.30887	9.31806	0	15	50	0	9.31189	9.32122	0	10
'	''	cos	cotg	''	'	'	''	cos	cotg	''	'

78⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.31189	9.32122	0	10	55	0	9.31490	9.32436	0	5
	10	9.31199	9.32133	50			10	9.31500	9.32446	50	
	20	9.31209	9.32143	40			20	9.31510	9.32457	40	
	30	9.31219	9.32154	30			30	9.31520	9.32467	30	
	40	9.31229	9.32164	20			40	9.31530	9.32478	20	
	50	9.31239	9.32175	10			50	9.31540	9.32488	10	
51	0	9.31250	9.32185	0	9	56	0	9.31549	9.32498	0	4
	10	9.31260	9.32196	50			10	9.31559	9.32509	50	
	20	9.31270	9.32206	40			20	9.31569	9.32519	40	
	30	9.31280	9.32216	30			30	9.31579	9.32530	30	
	40	9.31290	9.32227	20			40	9.31589	9.32540	20	
	50	9.31300	9.32237	10			50	9.31599	9.32550	10	
52	0	9.31310	9.32248	0	8	57	0	9.31609	9.32561	0	3
	10	9.31320	9.32258	50			10	9.31619	9.32571	50	
	20	9.31330	9.32269	40			20	9.31629	9.32582	40	
	30	9.31340	9.32279	30			30	9.31639	9.32592	30	
	40	9.31350	9.32290	20			40	9.31649	9.32602	20	
	50	9.31360	9.32300	10			50	9.31659	9.32613	10	
53	0	9.31370	9.32311	0	7	58	0	9.31669	9.32623	0	2
	10	9.31380	9.32321	50			10	9.31679	9.32633	50	
	20	9.31390	9.32332	40			20	9.31689	9.32644	40	
	30	9.31400	9.32342	30			30	9.31699	9.32654	30	
	40	9.31410	9.32352	20			40	9.31709	9.32665	20	
	50	9.31420	9.32363	10			50	9.31718	9.32675	10	
54	0	9.31430	9.32373	0	6	59	0	9.31728	9.32685	0	1
	10	9.31440	9.32384	50			10	9.31738	9.32696	50	
	20	9.31450	9.32394	40			20	9.31748	9.32706	40	
	30	9.31460	9.32405	30			30	9.31758	9.32716	30	
	40	9.31470	9.32415	20			40	9.31768	9.32727	20	
	50	9.31480	9.32425	10			50	9.31778	9.32737	10	
55	0	9.31490	9.32436	0	5	60	0	9.31788	9.32747	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

12⁰

′	″	sin	tang	″	′
0	0	9.31788	9.32747	0	60
	10	9.31798	9.32758	50	
	20	9.31808	9.32768	40	
	30	9.31818	9.32779	30	
	40	9.31827	9.32789	20	
	50	9.31837	9.32799	10	
1	0	9.31847	9.32810	0	59
	10	9.31857	9.32820	50	
	20	9.31867	9.32830	40	
	30	9.31877	9.32841	30	
	40	9.31887	9.32851	20	
	50	9.31897	9.32861	10	
2	0	9.31907	9.32872	0	58
	10	9.31916	9.32882	50	
	20	9.31926	9.32892	40	
	30	9.31936	9.32902	30	
	40	9.31946	9.32913	20	
	50	9.31956	9.32923	10	
3	0	9.31966	9.32933	0	57
	10	9.31976	9.32944	50	
	20	9.31986	9.32954	40	
	30	9.31995	9.32964	30	
	40	9.32005	9.32975	20	
	50	9.32015	9.32985	10	
4	0	9.32025	9.32995	0	56
	10	9.32035	9.33006	50	
	20	9.32045	9.33016	40	
	30	9.32054	9.33026	30	
	40	9.32064	9.33036	20	
	50	9.32074	9.33047	10	
5	0	9.32084	9.33057	0	55
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
5	0	9.32084	9.33057	0	55
	10	9.32094	9.33067	50	
	20	9.32104	9.33078	40	
	30	9.32113	9.33088	30	
	40	9.32123	9.33098	20	
	50	9.32133	9.33108	10	
6	0	9.32143	9.33119	0	54
	10	9.32153	9.33129	50	
	20	9.32163	9.33139	40	
	30	9.32172	9.33150	30	
	40	9.32182	9.33160	20	
	50	9.32192	9.33170	10	
7	0	9.32202	9.33180	0	53
	10	9.32212	9.33191	50	
	20	9.32221	9.33201	40	
	30	9.32231	9.33211	30	
	40	9.32241	9.33221	20	
	50	9.32251	9.33232	10	
8	0	9.32261	9.33242	0	52
	10	9.32270	9.33252	50	
	20	9.32280	9.33262	40	
	30	9.32290	9.33273	30	
	40	9.32300	9.33283	20	
	50	9.32310	9.33293	10	
9	0	9.32319	9.33303	0	51
	10	9.32329	9.33313	50	
	20	9.32339	9.33324	40	
	30	9.32349	9.33334	30	
	40	9.32358	9.33344	20	
	50	9.32368	9.33354	10	
10	0	9.32378	9.33365	0	50
′	″	cos	cotg	″	′

77⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
10	0	9.32378	9.33365	0	50	15	0	9.32670	9.33670	0	45
	10	9.32388	9.33375	50			10	9.32680	9.33680	50	
	20	9.32398	9.33385	40			20	9.32689	9.33691	40	
	30	9.32407	9.33395	30			30	9.32699	9.33701	30	
	40	9.32417	9.33405	20			40	9.32709	9.33711	20	
	50	9.32427	9.33416	10			50	9.32718	9.33721	10	
11	0	9.32437	9.33426	0	49	16	0	9.32728	9.33731	0	44
	10	9.32446	9.33436	50			10	9.32738	9.33741	50	
	20	9.32456	9.33446	40			20	9.32747	9.33751	40	
	30	9.32466	9.33457	30			30	9.32757	9.33762	30	
	40	9.32476	9.33467	20			40	9.32767	9.33772	20	
	50	9.32485	9.33477	10			50	9.32777	9.33782	10	
12	0	9.32495	9.33487	0	48	17	0	9.32786	9.33792	0	43
	10	9.32505	9.33497	50			10	9.32796	9.33802	50	
	20	9.32515	9.33507	40			20	9.32806	9.33812	40	
	30	9.32524	9.33518	30			30	9.32815	9.33822	30	
	40	9.32534	9.33528	20			40	9.32825	9.33832	20	
	50	9.32544	9.33538	10			50	9.32834	9.33843	10	
13	0	9.32553	9.33548	0	47	18	0	9.32844	9.33853	0	42
	10	9.32563	9.33558	50			10	9.32854	9.33863	50	
	20	9.32573	9.33569	40			20	9.32863	9.33873	40	
	30	9.32583	9.33579	30			30	9.32873	9.33883	30	
	40	9.32592	9.33589	20			40	9.32883	9.33893	20	
	50	9.32602	9.33599	10			50	9.32892	9.33903	10	
14	0	9.32612	9.33609	0	46	19	0	9.32902	9.33913	0	41
	10	9.32621	9.33619	50			10	9.32912	9.33923	50	
	20	9.32631	9.33630	40			20	9.32921	9.33934	40	
	30	9.32641	9.33640	30			30	9.32931	9.33944	30	
	40	9.32651	9.33650	20			40	9.32941	9.33954	20	
	50	9.32660	9.33660	10			50	9.32950	9.33964	10	
15	0	9.32670	9.33670	0	45	20	0	9.32960	9.33974	0	40
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

12⁰

′	″	sin	tang	″	′	′	″	sin	tang	″	′
20	0	9.32960	9.33974	0	40	25	0	9.33248	9.34276	0	35
	10	9.32970	9.33984	50			10	9.33257	9.34286	50	
	20	9.32979	9.33994	40			20	9.33267	9.34296	40	
	30	9.32989	9.34004	30			30	9.33276	9.34306	30	
	40	9.32998	9.34014	20			40	9.33286	9.34316	20	
	50	9.33008	9.34024	10			50	9.33296	9.34326	10	
21	0	9.33018	9.34034	0	39	26	0	9.33305	9.34336	0	34
	10	9.33027	9.34044	50			10	9.33315	9.34346	50	
	20	9.33037	9.34055	40			20	9.33324	9.34356	40	
	30	9.33046	9.34065	30			30	9.33334	9.34366	30	
	40	9.33056	9.34075	20			40	9.33343	9.34376	20	
	50	9.33066	9.34085	10			50	9.33353	9.34386	10	
22	0	9.33075	9.34095	0	38	27	0	9.33362	9.34396	0	33
	10	9.33085	9.34105	50			10	9.33372	9.34406	50	
	20	9.33094	9.34115	40			20	9.33381	9.34416	40	
	30	9.33104	9.34125	30			30	9.33391	9.34426	30	
	40	9.33114	9.34135	20			40	9.33400	9.34436	20	
	50	9.33123	9.34145	10			50	9.33410	9.34446	10	
23	0	9.33133	9.34155	0	37	28	0	9.33420	9.34456	0	32
	10	9.33142	9.34165	50			10	9.33429	9.34466	50	
	20	9.33152	9.34175	40			20	9.33439	9.34476	40	
	30	9.33162	9.34185	30			30	9.33448	9.34486	30	
	40	9.33171	9.34195	20			40	9.33458	9.34496	20	
	50	9.33181	9.34205	10			50	9.33467	9.34506	10	
24	0	9.33190	9.34215	0	36	29	0	9.33477	9.34516	0	31
	10	9.33200	9.34226	50			10	9.33486	9.34526	50	
	20	9.33209	9.34236	49			20	9.33496	9.34536	40	
	30	9.33219	9.34246	30			30	9.33505	9.34546	30	
	40	9.33229	9.34256	20			40	9.33515	9.34556	20	
	50	9.33238	9.34266	10			50	9.33524	9.34566	10	
25	0	9.33248	9.34276	0	35	30	0	9.33534	9.34576	0	30
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

77⁰

′	″	sin	tang	″	′
30	0	9.33534	9.34576	0	30
	10	9.33543	9.34585	50	
	20	9.33553	9.34595	40	
	30	9.33562	9.34605	30	
	40	9.33572	9.34615	20	
	50	9.33581	9.34625	10	
31	0	9.33591	9.34635	0	29
	10	9.33600	9.34645	50	
	20	9.33610	9.34655	40	
	30	9.33619	9.34665	30	
	40	9.33629	9.34675	20	
	50	9.33638	9.34685	10	
32	0	9.33647	9.34695	0	28
	10	9.33657	9.34705	50	
	20	9.33666	9.34715	40	
	30	9.33676	9.34725	30	
	40	9.33685	9.34735	20	
	50	9.33695	9.34745	10	
33	0	9.33704	9.34755	0	27
	10	9.33714	9.34764	50	
	20	9.33723	9.34774	40	
	30	9.33733	9.34784	30	
	40	9.33742	9.34794	20	
	50	9.33752	9.34804	10	
34	0	9.33761	9.34814	0	26
	10	9.33770	9.34824	50	
	20	9.33780	9.34834	40	
	30	9.33789	9.34844	30	
	40	9.33799	9.34854	20	
	50	9.33808	9.34864	10	
35	0	9.33818	9.34874	0	25
′	″	cos	cotg	″	′

′	″	sin	tang	″	′
35	0	9.33818	9.34874	0	25
	10	9.33827	9.34883	50	
	20	9.33836	9.34893	40	
	30	9.33846	9.34903	30	
	40	9.33855	9.34913	20	
	50	9.33865	9.34923	10	
36	0	9.33874	9.34933	0	24
	10	9.33884	9.34943	50	
	20	9.33893	9.34953	40	
	30	9.33902	9.34963	30	
	40	9.33912	9.34972	20	
	50	9.33921	9.34982	10	
37	0	9.33931	9.34992	0	23
	10	9.33940	9.35002	50	
	20	9.33949	9.35012	40	
	30	9.33959	9.35022	30	
	40	9.33968	9.35032	20	
	50	9.33978	9.35042	10	
38	0	9.33987	9.35051	0	22
	10	9.33996	9.35061	50	
	20	9.34006	9.35071	40	
	30	9.34015	9.35081	30	
	40	9.34025	9.35091	20	
	50	9.34034	9.35101	10	
39	0	9.34043	9.35111	0	21
	10	9.34053	9.35120	50	
	20	9.34062	9.35130	40	
	30	9.34072	9.35140	30	
	40	9.34081	9.35150	20	
	50	9.34090	9.35160	10	
40	0	9.34100	9.35170	0	20
′	″	cos	cotg	″	′

12°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
40	0	9.34100	9.35170	0	20	45	0	9.34380	9.35464	0	15
	10	9.34109	9.35180	50			10	9.34389	9.35474	50	
	20	9.34118	9.35189	40			20	9.34398	9.35484	40	
	30	9.34128	9.35199	30			30	9.34408	9.35493	30	
	40	9.34137	9.35209	20			40	9.34417	9.35503	20	
	50	9.34146	9.35219	10			50	9.34426	9.35513	10	
41	0	9.34156	9.35229	0	19	46	0	9.34436	9.35523	0	14
	10	9.34165	9.35239	50			10	9.34445	9.35532	50	
	20	9.34175	9.35248	40			20	9.34454	9.35542	40	
	30	9.34184	9.35258	30			30	9.34463	9.35552	30	
	40	9.34193	9.35268	20			40	9.34473	9.35562	20	
	50	9.34203	9.35278	10			50	9.34482	9.35571	10	
42	0	9.34212	9.35288	0	18	47	0	9.34491	9.35581	0	13
	10	9.34221	9.35297	50			10	9.34501	9.35591	50	
	20	9.34231	9.35307	40			20	9.34510	9.35601	40	
	30	9.34240	9.35317	30			30	9.34519	9.35611	30	
	40	9.34249	9.35327	20			40	9.34528	9.35020	20	
	50	9.34259	9.35337	10			50	9.34538	9.35630	10	
43	0	9.34268	9.35347	0	17	48	0	9.34547	9.35640	0	12
	10	9.34277	9.35356	50			10	9.34556	9.35650	50	
	20	9.34287	9.35366	40			20	9.34565	9.35659	40	
	30	9.34296	9.35376	30			30	9.34575	9.35669	30	
	40	9.34305	9.35386	20			40	9.34584	9.35679	20	
	50	9.34315	9.35396	10			50	9.34593	9.35688	10	
44	0	9.34324	9.35405	0	16	49	0	9.34602	9.35698	0	11
	10	9.34333	9.35415	50			10	9.34612	9.35708	50	
	20	9.34342	9.35425	40			20	9.34621	9.35718	40	
	30	9.34352	9.35435	30			30	9.34630	9.35727	30	
	40	9.34361	9.35444	20			40	9.34639	9.35737	20	
	50	9.34370	9.35454	10			50	9.34649	9.35747	10	
45	0	9.34380	9.35464	0	15	50	0	9.34658	9.35757	0	10
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

77°

′	″	sin	tang	″	′	′	″	sin	tang	″	′
50	0	9.34658	9.35757	0	10	55	0	9.34934	9.36047	0	5
	10	9.34667	9.35766	50			10	9.34943	9.36057	50	
	20	9.34676	9.35776	40			20	9.34953	9.36067	40	
	30	9.34686	9.35786	30			30	9.34962	9.36076	30	
	40	9.34695	9.35795	20			40	9.34971	9.36086	20	
	50	9.34704	9.35805	10			50	9.34980	9.36096	10	
51	0	9.34713	9.35815	0	9	56	0	9.34989	9.36105	0	4
	10	9.34723	9.35825	50			10	9.34999	9.36115	50	
	20	9.34732	9.35834	40			20	9.35008	9.36125	40	
	30	9.34741	9.35844	30			30	9.35017	9.36134	30	
	40	9.34750	9.35854	20			40	9.35026	9.36144	20	
	50	9.34759	9.35863	10			50	9.35035	9.36154	10	
52	0	9.34769	9.35873	0	8	57	0	9.35044	9.36163	0	3
	10	9.34778	9.35883	50			10	9.35053	9.36173	50	
	20	9.34787	9.35892	40			20	9.35063	9.36182	40	
	30	9.34796	9.35902	30			30	9.35072	9.36192	30	
	40	9.34806	9.35912	20			40	9.35081	9.36202	20	
	50	9.34815	9.35922	10			50	9.35090	9.36211	10	
53	0	9.34824	9.35931	0	7	58	0	9.35099	9.36221	0	2
	10	9.34833	9.35941	50			10	9.35108	9.36231	50	
	20	9.34842	9.35951	40			20	9.35118	9.36240	40	
	30	9.34852	9.35960	30			30	9.35127	9.36250	30	
	40	9.34861	9.35970	20			40	9.35136	9.36260	20	
	50	9.34870	9.35980	10			50	9.35145	9.36269	10	
54	0	9.34879	9.35939	0	6	59	0	9.35154	9.36279	0	1
	10	9.34888	9.35999	50			10	9.35163	9.36288	50	
	20	9.34898	9.36009	40			20	9.35172	9.36298	40	
	30	9.34907	9.36018	30			30	9.35181	9.36308	30	
	40	9.34916	9.36028	20			40	9.35191	9.36317	20	
	50	9.34925	9.36038	10			50	9.35200	9.36327	10	
55	0	9.34934	9.36047	0	5	60	0	9.35209	9.36336	0	0
′	″	cos	cotg	″	′	′	″	cos	cotg	″	′

Die ersten 120 Primzahlen und ihre natürlichen Logarithmen.

N.	Log.nat.	N.	Log.nat.	N.	Log.nat.	N.	Log.nat.
2	0.69315	127	4.84419	283	5.64545	467	6.14633
3	1.09861	131	4.87520	293	5.68017	479	6.17170
5	1.60944	137	4.91998	307	5.72685	487	6.18826
7	1.94591	139	4.93447	311	5.73979	491	6.19644
11	2.39790	149	5.00395	313	5.74620	499	6.21261
13	2.56495	151	5.01728	317	5.75890	503	6.22059
17	2.83321	157	5.05625	331	5.80212	509	6.23245
19	2.94444	163	5.09375	337	5.82008	521	6.25575
23	3.13549	167	5.11799	347	5.84932	523	6.25958
29	3.36730	173	5.15329	349	5.85507	541	6.29342
31	3.43399	179	5.18739	353	5.86647	547	6.30445
37	3.61092	181	5.19850	359	5.88332	557	6.32257
41	3.71357	191	5.25227	367	5.90536	563	6.33328
43	3.76120	193	5.26269	373	5.92158	569	6.34388
47	3.85015	197	5.28320	379	5.93754	571	6.34739
53	3.97029	199	5.29330	383	5.94803	577	6.35784
59	4.07754	211	5.35186	389	5.96358	587	6.37502
61	4.11087	223	5.40717	397	5.98394	593	6.38519
67	4.20469	227	5.42495	401	5.99396	599	6.39526
71	4.26268	229	5.43372	409	6.01372	601	6.39859
73	4.29046	233	5.45104	419	6.03787	607	6.40853
79	4.36945	239	5.47646	421	6.04263	613	6.41836
83	4.41884	241	5.48480	431	6.06611	617	6.42487
89	4.48864	251	5.52545	433	6.07074	619	6.42811
97	4.57471	257	5.54908	439	6.08450	631	6.44731
101	4.61512	263	5.57215	443	6.09357	641	6.46303
103	4.63473	269	5.59471	449	6.10702	643	6.46614
107	4.67283	271	5.60212	457	6.12468	647	6.47235
109	4.69135	277	5.62402	461	6.13340	653	6.48158
113	4.72739	281	5.63835	463	6.13773	659	6.49072

Logarithmen

der Sinus, Tangenten, Cotangenten und Cosinus

von Minute zu Minute

für

alle Grade des Quadranten.

′	Sin. 0	Dif.	Tang. 0	Dif. c.	Cot. 0	Cos. 0	′
0	Inf. nég.		Inf. nég.		Inf. pos.	0.00000	60
1	6.46373	30103	6.46373	30103	3.53627	0.00000	59
2	6.76476	17609	6.76476	17609	3.23524	0.00000	58
3	6.94085	12494	6.94085	12494	3.05915	0.00000	57
4	7.06579	9691	7.06579	9691	2.93421	0.00000	56
5	7.16270	7918	7.16270	7918	2.83730	0.00000	55
6	7.24188	6694	7.24188	6694	2.75812	0.00000	54
7	7.30882	5800	7.30882	5800	2.69118	0.00000	53
8	7.36682	5115	7.36682	5115	2.63318	0.00000	52
9	7.41797	4576	7.41797	4576	2.58203	0.00000	51
10	7.46373	4139	7.46373	4139	2.53627	0.00000	50
11	7.50512	3779	7.50512	3779	2.49488	0.00000	49
12	7.54291	3476	7.54291	3476	2.45709	0.00000	48
13	7.57767	3218	7.57767	3219	2.42233	0.00000	47
14	7.60985	2997	7.60986	2996	2.39014	0.00000	46
15	7.63982	2802	7.63982	2803	2.36018	0.00000	45
16	7.66784	2633	7.66785	2633	2.33215	0.00000	44
17	7.69417	2483	7.69418	2482	2.30582	9.99999	43
18	7.71900	2348	7 71900	2348	2.28100	9.99999	42
19	7.74248	2227	7.74248	2228	2.25752	9.99999	41
20	7.76475	2119	7.76476	2119	2.23524	9.99999	40
21	7.78594	2021	7.78595	2020	2.21405	9.99999	39
22	7.80615	1930	7.80615	1931	2.19385	9.99999	38
23	7.82545	1848	7.82546	1848	2.17454	9.99999	37
24	7.84393	1773	7.84394	1773	2.15606	9.99999	36
25	7.86166	1704	7.86167	1704	2.13833	9.99999	35
26	7.87870	1639	7.87871	1639	2.12129	9.99999	34
27	7.89509	1579	7.89510	1579	2.10490	9.99999	33
28	7.91088	1524	7.91089	1524	2.08911	9.99999	32
29	7.92612	1472	7.92613	1473	2.07387	9.99998	31
30	7.94084		7.94086		2.05914	9.99998	30
	Cos. 89		Cot. 89		Tang. 89	Sin. 89	

′	Sin. 0	Dif.	Tang. 0	Dif. c.	Cot. 0	Cos 0	
30	7.94084	1424	7.94086	1424	2.05914	9.99998	30
31	7.95508	1379	7.95510	1379	2.04490	9.99998	29
32	7.96887	1336	7.96889	1336	2.03111	9.99998	28
33	7.98223	1297	7.98225	1297	2.01775	9.99998	27
34	7.99520	1259	7.99522	1259	2.00478	9.99998	26
35	8.00779	1223	8.00781	1223	1.99219	9.99998	25
36	8.02002	1190	8.02004	1190	1.97996	9.99998	24
37	8.03192	1158	8.03194	1159	1.96806	9.99997	23
38	8.04350	1128	8.04353	1128	1.95647	9.99997	22
39	8.05478	1100	8.05481	1100	1.94519	9.99997	21
40	8.06578	1072	8.06581	1072	1.93419	9.99997	20
41	8.07650	1046	8.07653	1047	1.92347	9.99997	19
42	8.08696	1022	8.08700	1022	1.91300	9.99997	18
43	8.09718	999	8.09722	998	1.90278	9.99997	17
44	8.10717	976	8.10720	976	1.89280	9.99996	16
45	8.11693	954	8.11696	955	1.88304	9.99996	15
46	8.12647	934	8.12651	934	1.87349	9.99996	14
47	8.13581	914	8.13585	915	1.86415	9.99996	13
48	8.14495	896	8.14500	895	1.85500	9.99996	12
49	8.15391	877	8.15395	878	1.84605	9.99996	11
50	8.16268	860	8.16273	860	1.83727	9.99995	10
51	8.17128	843	8.17133	843	1.82867	9.99995	9
52	8.17971	827	8.17976	828	1.82024	9.99995	8
53	8.18798	812	8.18804	812	1.81196	9.99995	7
54	8.19610	797	8.19616	797	1.80384	9.99995	6
55	8.20407	782	8.20413	782	1.79587	9.99994	5
56	8.21189	769	8.21195	769	1.78805	9.99994	4
57	8.21958	755	8.21964	756	1.78036	9.99994	3
58	8.22713	743	8.22720	742	1.77280	9.99994	2
59	8.23456	730	8.23462	730	1.76538	9.99994	1
60	8.24186		8.24192		1.75808	9.99993	0
	Cos. 89		Cot. 89		Tang. 89	Sin. 89	′

′	Sin. 1	Dif.	Tang. 1	D.c.	Cot. 1	Cos. 1	′
0	8.24186	717	8.24192	718	1.75808	9.99993	60
1	8.24903	706	8.24910	706	1.75090	9.99993	59
2	8.25609	695	8.25616	696	1.74384	9.99993	58
3	8.26304	684	8.26312	684	1.73688	9.99993	57
4	8.26988	673	8.26996	673	1.73004	9.99992	56
5	8.27661	663	8.27669	663	1.72331	9.99992	55
6	8.28324	653	8.28332	654	1.71668	9.99992	54
7	8.28977	644	8.28986	643	1.71014	9.99992	53
8	8.29621	634	8.29629	634	1.70371	9.99992	52
9	8.30255	624	8.30263	625	1.69737	9.99991	51
10	8.30879	616	8.30888	617	1.69112	9.99991	50
11	8.31495	608	8.31505	607	1.68495	9.99991	49
12	8.32103	599	8.32112	599	1.67888	9.99990	48
13	8.32702	590	8.32711	591	1.67289	9.99990	47
14	8.33292	583	8.33302	584	1.66698	9.99990	46
15	8.33875	575	8.33886	575	1.66114	9.99990	45
16	8.34450	568	8.34461	568	1.65539	9.99989	44
17	8.35018	560	8.35029	561	1.64971	9.99989	43
18	8.35578	553	8.35590	553	1.64410	9.99989	42
19	8.36131	547	8.36143	546	1.63857	9.99989	41
20	8.36678	539	8.36689	540	1.63311	9.99988	40
21	8.37217	533	8.37229	533	1.62771	9.99988	39
22	8.37750	526	8.37762	527	1.62238	9.99988	38
23	8.38276	520	8.38289	520	1.61711	9.99987	37
24	8.38796	514	8.38809	514	1.61191	9.99987	36
25	8.39310	508	8.39323	509	1.60677	9.99987	35
26	8.39818	502	8.39832	502	1.60168	9.99986	34
27	8.40320	496	8.40334	496	1.59666	9.99986	33
28	8.40816	491	8.40830	491	1.59170	9.99986	32
29	8.41307	485	8.41321	486	1.58679	9.99985	31
30	8.41792		8.41807		1.58193	9.99985	30
	Cos. 88		Cot. 88		Tang. 88	Sin. 88	

′	Sin. 1	Dif.	Tang. 1	D.c.	Cot. 1	Cos. 1	′
30	8.41792	480	8.41807	480	1.58193	9.99985	30
31	8.42272	474	8.42287	475	1.57713	9.99985	29
32	8.42746	470	8.42762	470	1.57238	9.99984	28
33	8.43216	464	8.43232	464	1.56768	9.99984	27
34	8.43680	459	8.43696	460	1.56304	9.99984	26
35	8.44139	455	8.44156	455	1.55844	9.99983	25
36	8.44594	450	8.44611	450	1.55389	9.99983	24
37	8.45044	445	8.45061	446	1.54939	9.99983	23
38	8.45489	441	8.45507	441	1.54493	9.99982	22
39	8.45930	436	8.45948	437	1.54052	9.99982	21
40	8.46366	433	8.46385	432	1.53615	9.99982	20
41	8.46799	427	8.46817	428	1.53183	9.99981	19
42	8.47226	424	8.47245	424	1.52755	9.99981	18
43	8.47650	419	8.47669	420	1.52331	9.99981	17
44	8.48069	416	8.48089	416	1.51911	9.99980	16
45	8.48485	411	8.48505	412	1.51495	9.99980	15
46	8.48896	408	8.48917	408	1.51083	9.99979	14
47	8.49304	404	8.49325	404	1.50675	9.99979	13
48	8.49708	400	8.49729	401	1.50271	9.99979	12
49	8.50108	396	8.50130	397	1.49870	9.99978	11
50	8.50504	393	8.50527	393	1.49473	9.99978	10
51	8.50897	390	8.50920	390	1.49080	9.99977	9
52	8.51287	386	8.51310	386	1.48690	9.99977	8
53	8.51673	382	8.51696	383	1.48304	9.99977	7
54	8.52055	379	8.52079	380	1.47921	9.99976	6
55	8.52434	376	8.52459	376	1.47541	9.99976	5
56	8.52810	373	8.52835	373	1.47165	9.99975	4
57	8.53183	369	8.53208	370	1.46792	9.99975	3
58	8.53552	367	8.53578	367	1.46422	9.99974	2
59	8.53919	363	8.53945	363	1.46055	9.99974	1
60	8.54282		8.54308		1.45692	9.99974	0
	Cos. 88		Cot. 88		Tang. 88	Sin. 88	

′	Sin. 2	Dif.	Tang. 2	D.c.	Cot. 2	Cos. 2	′
0	8.54282		8.54308		1.45692	9.99974	60
		360		361			
1	8.54642		8.54669		1.45331	9.99973	59
		357		358			
2	8.54999		8.55027		1.44973	9.99973	58
		355		355			
3	8.55354		8.55382		1.44618	9.99972	57
		351		352			
4	8.55705		8.55734		1.44266	9.99972	56
		349		349			
5	8.56054		8.56083		1.43917	9.99971	55
		346		346			
6	8.56400		8.56429		1.43571	9.99971	54
		343		344			
7	8.56743		8.56773		1.43227	9.99970	53
		341		341			
8	8.57084		8.57114		1.42886	9.99970	52
		337		338			
9	8.57421		8.57452		1.42548	9.99969	51
		336		336			
10	8.57757		8.57788		1.42212	9.99969	50
		332		333			
11	8.58089		8.58121		1.41879	9.99968	49
		330		330			
12	8.58419		8.58451		1.41549	9.99968	48
		328		328			
13	8.58747		8.58779		1.41221	9.99967	47
		325		326			
14	8.59072		8.59105		1.40895	9.99967	46
		323		323			
15	8.59395		8.59428		1.40572	9.99967	45
		320		321			
16	8.59715		8.59749		1.40251	9.99966	44
		318		319			
17	8.60033		8.60068		1.39932	9.99966	43
		316		316			
18	8.60349		8.60384		1.39616	9.99965	42
		313		314			
19	8.60662		8.60698		1.39302	9.99964	41
		311		311			
20	8.60973		8.61009		1.38991	9.99964	40
		309		310			
21	8.61282		8.61319		1.38681	9.99963	39
		307		307			
22	8.61589		8.61626		1.38374	9.99963	38
		305		305			
23	8.61894		8.61931		1.38069	9.99962	37
		302		303			
24	8.62196		8.62234		1.37766	9.99962	36
		301		301			
25	8.62497		8.62535		1.37465	9.99961	35
		298		299			
26	8.62795		8.62834		1.37166	9.99961	34
		296		297			
27	8.63091		8.63131		1.36869	9.99960	33
		294		295			
28	8.63385		8.63426		1.36574	9.99960	32
		293		292			
29	8.63678		8.63718		1.36282	9.99959	31
		290		291			
30	8.63968		8.64009		1.35991	9.99959	30
	Cos. 87		Cot. 87		Tang. 87	Sin. 87	

′	Sin. 2	Dif.	Tang. 2	D.c.	Cot. 2	Cos. 2	′
30	8.63968	288	8.64009	289	1.35991	9.99959	30
31	8.64256	287	8.64298	287	1.35702	9.99958	29
32	8.64543	284	8.64585	285	1.35415	9.99958	28
33	8.64827	283	8.64870	284	1.35130	9.99957	27
34	8.65110	281	8.65154	281	1.34846	9.99956	26
35	8.65391	279	8.65435	280	1.34565	9.99956	25
36	8.65670	277	8.65715	278	1.34285	9.99955	24
37	8.65947	276	8.65993	276	1.34007	9.99955	23
38	8.66223	274	8.66269	274	1.33731	9.99954	22
39	8.66497	272	8.66543	273	1.33457	9.99954	21
40	8.66769	270	8.66816	271	1.33184	9.99953	20
41	8.67039	269	8.67087	269	1.32913	9.99952	19
42	8.67308	267	8.67356	268	1.32644	9.99952	18
43	8.67575	266	8.67624	266	1.32376	9.99951	17
44	8.67841	263	8.67890	264	1.32110	9.99951	16
45	8.68104	263	8.68154	263	1.31846	9.99950	15
46	8.68367	260	8.68417	261	1.31583	9.99949	14
47	8.68627	259	8.68678	260	1.31322	9.99949	13
48	8.68886	258	8.68938	258	1.31062	9.99948	12
49	8.69144	256	8.69196	257	1.30804	9.99948	11
50	8.69400	254	8.69453	255	1.30547	9.99947	10
51	8.69654	253	8.69708	254	1.30292	9.99946	9
52	8.69907	252	8.69962	252	1.30038	9.99946	8
53	8.70159	250	8.70214	251	1.29786	9.99945	7
54	8.70409	249	8.70465	249	1.29535	9.99944	6
55	8.70658	247	8.70714	248	1.29286	9.99944	5
56	8.70905	246	8.70962	246	1.29038	9.99943	4
57	8.71151	244	8.71208	245	1.28792	9.99942	3
58	8.71395	243	8.71453	244	1.28547	9.99942	2
59	8.71638	242	8.71697	243	1.28303	9.99941	1
60	8.71880		8.71940		1.28060	9.99940	0
	Cos. 87		Cot. 87		Tang. 87	Sin. 87	

′	Sin. 3	Dif.	Tang. 3	D.c.	Cot. 3	Cos. 3	′
0	8.71880	240	8.71940	241	1.28060	9.99940	60
1	8.72120	239	8.72181	239	1.27819	9.99940	59
2	8.72359	238	8.72420	239	1.27580	9.99939	58
3	8.72597	237	8.72659	237	1.27341	9.99938	57
4	8.72834	235	8.72896	236	1.27104	9.99938	56
5	8.73069	234	8.73132	234	1.26868	9.99937	55
6	8.73303	232	8.73366	234	1.26634	9.99936	54
7	8.73535	232	8.73600	232	1.26400	9.99936	53
8	8.73767	230	8.73832	231	1.26168	9.99935	52
9	8.73997	229	8.74063	229	1.25937	9.99934	51
10	8.74226	228	8.74292	229	1.25708	9.99934	50
11	8.74454	226	8.74521	227	1.25479	9.99933	49
12	8.74680	226	8.74748	226	1.25252	9.99932	48
13	8.74906	224	8.74974	225	1.25026	9.99932	47
14	8.75130	223	8.75199	224	1.24801	9.99931	46
15	8.75353	222	8.75423	222	1.24577	9.99930	45
16	8.75575	220	8.75645	222	1.24355	9.99929	44
17	8.75795	220	8.75867	220	1.24133	9.99929	43
18	8.76015	219	8.76087	219	1.23918	9.99928	42
19	8.76234	217	8.76306	219	1.23694	9.99927	41
20	8.76451	216	8.76525	217	1.23475	9.99926	40
21	8.76667	216	8.76742	216	1.23258	9.99926	39
22	8.76883	214	8.76958	215	1.23042	9.99925	38
23	8.77097	213	8.77173	214	1.22827	9.99924	37
24	8.77310	212	8.77387	213	1.22613	9.99923	36
25	8.77522	211	8.77600	211	1.22400	9.99923	35
26	8.77733	210	8.77811	211	1.22189	9.99922	34
27	8.77943	209	8.78022	210	1.21978	9.99921	33
28	8.78152	208	8.78232	209	1.21768	9.99920	32
29	8.78360	208	8.78441	208	1.21559	9.99920	31
30	8.78568		8.78649		1.21351	9.99919	30
	Cos. 86		Cot. 86		Tang. 86	Sin. 86	

'	Sin. 3	Dif.	Tang. 3	D.c.	Cot. 3	Cos. 3	'
30	8.78568	206	8.78649	206	1.21351	9.99919	30
31	8.78774	205	8.78855	206	1.21145	9.99918	29
32	8.78979	204	8.79061	205	1.20939	9.99917	28
33	8.79183	203	8.79266	204	1.20734	9.99917	27
34	8.79386	202	8.79470	203	1.20530	9.99916	26
35	8.79588	201	8.79673	202	1.20327	9.99915	25
36	8.79789	201	8.79875	201	1.20125	9.99914	24
37	8.79990	199	8.80076	201	1.19924	9.99913	23
38	8.80189	199	8.80277	199	1.19723	9.99913	22
39	8.80388	197	8.80476	198	1.19524	9.99912	21
40	8.80585	197	8.80674	198	1.19326	9.99911	20
41	8.80782	196	8.80872	196	1.19128	9.99910	19
42	8.80978	195	8.81068	196	1.18932	9.99909	18
43	8.81173	194	8.81264	195	1.18736	9.99909	17
44	8.81367	193	8.81459	194	1.18541	9.99908	16
45	8.81560	192	8.81653	193	1.18347	9.99907	15
46	8.81752	192	8.81846	192	1.18154	9.99906	14
47	8.81944	190	8.82038	192	1.17962	9.99905	13
48	8.82134	190	8.82230	190	1.17770	9.99904	12
49	8.82324	189	8.82420	190	1.17580	9.99904	11
50	8.82513	188	8.82610	189	1.17390	9.99903	10
51	8.82701	187	8.82799	188	1.17201	9.99902	9
52	8.82888	187	8.82987	188	1.17013	9.99901	8
53	8.83075	186	8.83175	186	1.16825	9.99900	7
54	8.83261	185	8.83361	186	1.16639	9.99899	6
55	8.83446	184	8.83547	185	1.16453	9.99898	5
56	8.83630	183	8.83732	184	1.16268	9.99898	4
57	8.83813	183	8.83916	184	1.16084	9.99897	3
58	8.83996	181	8.84100	182	1.15900	9.99896	2
59	8.84177	181	8.84282	182	1.15718	9.99895	1
60	8.84358		8.84464		1.15536	9.99894	0
	Cos. 86		Cot. 86		Tang. 86	Sin. 86	

′	Sin. 4	Dif.	Tang. 4	D.c.	Cot. 4	Cos 4	′
0	8.84358	181	8.84464	182	1.15536	9.99894	60
1	8.84539	179	8.84646	180	1.15354	9.99893	59
2	8.84718	179	8.84826	180	1.15174	9.99892	58
3	8.84897	178	8.85006	179	1.14994	9.99891	57
4	8.85075	177	8.85185	178	1.14815	9.99891	56
5	8.85252	177	8.85363	177	1.14637	9.99890	55
6	8.85429	176	8.85540	177	1.14460	9.99889	54
7	8.85605	175	8.85717	176	1.14283	9.99888	53
8	8.85780	175	8.85893	176	1.14107	9.99887	52
9	8.85955	173	8.86069	174	1.13931	9.99886	51
10	8.86128	173	8.86243	174	1.13757	9.99885	50
11	8.86301	173	8.86417	174	1.13583	9.99884	49
12	8.86474	171	8.86591	172	1.13409	9.99883	48
13	8.86645	171	8.86763	172	1.13237	9.99882	47
14	8.86816	171	8.86935	171	1.13065	9.99881	46
15	8.86987	169	8.87106	171	1.12894	9.99880	45
16	8.87156	169	8.87277	170	1.12723	9.99879	44
17	8.87325	169	8.87447	169	1.12553	9.99879	43
18	8.87494	167	8.87616	169	1.12384	9.99878	42
19	8.87661	168	8.87785	168	1.12215	9.99877	41
20	8.87829	166	8.87953	167	1.12047	9.99876	40
21	8.87995	166	8.88120	167	1.11880	9.99875	39
22	8.88161	165	8.88287	166	1.11713	9.99874	38
23	8.88326	164	8.88453	165	1.11547	9.99873	37
24	8.88490	164	8.88618	165	1.11382	9.99872	36
25	8.88654	163	8.88783	165	1.11217	9.99871	35
26	8.88817	163	8.88948	163	1.11052	9.99870	34
27	8.88980	162	8.89111	163	1.10889	9.99869	33
28	8.89142	162	8.89274	163	1.10726	9.99868	32
29	8.89304	160	8.89437	161	1.10563	9.99867	31
30	8.89464		8.89598		1.10402	9.99866	30
	Cos. 85		Cot. 85		Tang. 85	Sin. 85	

′	Sin. 4	Dif.	Tang. 4	D.c.	Cot. 4	Cos. 4	′
30	8.89464	161	8.89598	162	1.10402	9.99866	30
31	8.89625	159	8.89760	160	1.10240	9.99865	29
32	8.89784	159	8.89920	160	1.10080	9.99864	28
33	8.89943	159	8.90080	160	1.09920	9.99863	27
34	8.90102	158	8.90240	159	1.09760	9.99862	26
35	8.90260	157	8.90399	158	1.09601	9.99861	25
36	8.90417	157	8.90557	158	1.09443	9.99860	24
37	8.90574	156	8.90715	157	1.09285	9.99859	23
38	8.90730	155	8.90872	157	1.09128	9.99858	22
39	8.90885	155	8.91029	156	1.08971	9.99857	21
40	8.91040	155	8.91185	155	1.08815	9.99856	20
41	8.91195	154	8.91340	155	1.08660	9.99855	19
42	8.91349	153	8.91495	155	1.08505	9.99854	18
43	8.91502	153	8.91650	153	1.08350	9.99853	17
44	8.91655	152	8.91803	154	1.08197	9.99852	16
45	8.91807	152	8.91957	153	1.08043	9.99851	15
46	8.91959	151	8.92110	152	1.07890	9.99850	14
47	8.92110	151	8.92262	152	1.07738	9.99848	13
48	8.92261	150	8.92414	151	1.07586	9.99847	12
49	8.92411	150	8.92565	151	1.07435	9.99846	11
50	8.92561	149	8.92716	150	1.07284	9.99845	10
51	8.92710	149	8.92866	150	1.07134	9.99844	9
52	8.92859	148	8.93016	149	1.06984	9.99843	8
53	8.93007	147	8.93165	148	1.06835	9.99842	7
54	8.93154	147	8.93313	149	1.06687	9.99841	6
55	8.93301	147	8.93462	147	1.06538	9.99840	5
56	8.93448	146	8.93609	147	1.06391	9.99839	4
57	8.93594	146	8.93756	147	1.06244	9.99838	3
58	8.93740	145	8.93903	146	1.06097	9.99837	2
59	8.93885	145	8.94049	146	1.05951	9.99836	1
60	8.94030		8.94195		1.05805	9.99834	0
	Cos. 85		Cot. 85		Tang. 85	Sin. 85	

′	Sin. 5	Dif.	Tang. 5	D.c.	Cot. 5	Cos. 5	′
0	8.94030	144	8.94195	145	1.05805	9.99834	60
1	8.94174	143	8.94340	145	1.05660	9.99833	59
2	8.94317	144	8.94485	145	1.05515	9.99832	58
3	8.94461	142	8.94630	143	1.05370	9.99831	57
4	8.94603	143	8.94773	144	1.05227	9.99830	56
5	8.94746	141	8.94917	143	1.05083	9.99829	55
6	8.94887	142	8.95060	142	1.04940	9.99828	54
7	8.95029	141	8.95202	142	1.04798	9.99827	53
8	8.95170	140	8.95344	142	1.04656	9.99825	52
9	8.95310	140	8.95486	141	1.04514	9.99824	51
10	8.95450	139	8.95627	140	1.04373	9.99823	50
11	8.95589	139	8.95767	141	1.04233	9.99822	49
12	8.95728	139	8.95908	139	1.04092	9.99821	48
13	8.95867	138	8.96047	140	1.03953	9.99820	47
14	8.96005	138	8.96187	138	1.03813	9.99819	46
15	8.96143	137	8.96325	139	1.03675	9.99817	45
16	8.96280	137	8.96464	138	1.03536	9.99816	44
17	8.96417	136	8.96602	137	1.03398	9.99815	43
18	8.96553	136	8.96739	138	1.03261	9.99814	42
19	8.96689	136	8.96877	136	1.03123	9.99813	41
20	8.96825	135	8.97013	137	1.02987	9.99812	40
21	8.96960	135	8.97150	135	1.02850	9.99810	39
22	8.97095	134	8.97285	136	1.02715	9.99809	38
23	8.97229	134	8.97421	135	1.02579	9.99808	37
24	8.97363	133	8.97556	135	1.02444	9.99807	36
25	8.97496	133	8.97691	134	1.02309	9.99806	35
26	8.97629	133	8.97825	134	1.02175	9.99804	34
27	8.97762	132	8.97959	133	1.02041	9.99803	33
28	8.97894	132	8.98092	133	1.01908	9.99802	32
29	8.98026	131	8.98225	133	1.01775	9.99801	31
30	8.98157		8.98358		1.01642	9.99800	30
	Cos. 84		Cot. 84		Tang. 84	Sin. 84	

′	Sin. 5	Dif.	Tang. 5	D.c.	Cot. 5	Cos. 5	′
30	8.98157	131	8.98358	132	1.01642	9.99800	30
31	8.98288	131	8.98490	132	1.01510	9.99798	29
32	8.98419	130	8.98622	131	1.01378	9.99797	28
33	8.98549	130	8.98753	131	1.01247	9.99796	27
34	8.98679	129	8.98884	131	1.01116	9.99795	26
35	8.98808	129	8.99015	130	1.00985	9.99793	25
36	8.98937	129	8.99145	130	1.00855	9.99792	24
37	8.99066	128	8.99275	130	1.00725	9.99791	23
38	8.99194	128	8.99405	129	1.00595	9.99790	22
39	8.99322	128	8.99534	128	1.00466	9.99788	21
40	8.99450	127	8.99662	129	1.00338	9.99787	20
41	8.99577	127	8.99791	128	1.00209	9.99786	19
42	8.99704	126	8.99919	127	1.00081	9.99785	18
43	8.99830	126	9.00046	128	0.99954	9.99783	17
44	8.99956	126	9.00174	127	0.99826	9.99782	16
45	9.00082	125	9.00301	126	0.99699	9.99781	15
46	9.00207	125	9.00427	126	0.99573	9.99780	14
47	9.00332	124	9.00553	126	0.99447	9.99778	13
48	9.00456	125	9.00679	126	0.99321	9.99777	12
49	9.00581	123	9.00805	125	0.99195	9.99776	11
50	9.00704	124	9.00930	125	0.99070	9.99775	10
51	9.00828	123	9.01055	124	0.98945	9.99773	9
52	9.00951	123	9.01179	124	0.98821	9.99772	8
53	9.01074	122	9.01303	124	0.98697	9.99771	7
54	9.01196	122	9.01427	123	0.98573	9.99769	6
55	9.01318	122	9.01550	123	0.98450	9.99768	5
56	9.01440	121	9.01673	123	0.98327	9.99767	4
57	9.01561	121	9.01796	122	0.98204	9.99765	3
58	9.01682	121	9.01918	122	0.98082	9.99764	2
59	9.01803	120	9.02040	122	0.97960	9.99763	1
60	9.01923		9.02162		0.97838	9.99761	0
	Cos. 84		Cot. 84		Tang. 84	Sin. 84	

′	Sin. 6	Dif	Tang. 6	D.c.	Cot. 6	Cos. 6	′
0	9.01923	120	9.02162	121	0.97838	9.99761	60
1	9.02043	120	9.02283	121	0.97717	9.99760	59
2	9.02163	120	9.02404	121	0.97596	9.99759	58
3	9.02283	119	9.02525	120	0.97475	9.99757	57
4	9.02402	118	9.02645	121	0.97355	9.99756	56
5	9.02520	119	9.02766	119	0.97234	9.99755	55
6	9.02639	118	9.02885	120	0.97115	9.99753	54
7	9.02757	117	9.03005	119	0.96995	9.99752	53
8	9.02874	118	9.03124	118	0.96876	9.99751	52
9	9.02992	117	9.03242	119	0.96758	9.99749	51
10	9.03109	117	9.03361	118	0.96639	9.99748	50
11	9.03226	116	9.03479	118	0.96521	9.99747	49
12	9.03342	116	9.03597	117	0.96403	9.99745	48
13	9.03458	116	9.03714	118	0.96286	9.99744	47
14	9.03574	116	9.03832	116	0.96168	9.99742	46
15	9.03690	115	9.03948	117	0.96052	9.99741	45
16	9.03805	115	9.04065	116	0.95935	9.99740	44
17	9.03920	114	9.04181	116	0.95819	9.99738	43
18	9.04034	115	9.04297	116	0.95703	9.99737	42
19	9.04149	113	9.04413	115	0.95587	9.99736	41
20	9.04262	114	9.04528	115	0.95472	9.99734	40
21	9.04376	114	9.04643	115	0.95357	9.99733	39
22	9.04490	113	9.04758	115	0.95242	9.99731	38
23	9.04603	112	9.04873	114	0.95127	9.99730	37
24	9.04715	113	9.04987	114	0.95013	9.99728	36
25	9.04828	112	9.05101	113	0.94899	9.99727	35
26	9.04940	112	9.05214	114	0.94786	9.99726	34
27	9.05052	112	9.05328	113	0.94672	9.99724	33
28	9.05164	111	9.05441	112	0.94559	9.99723	32
29	9.05275	111	9.05553	113	0.94447	9.99721	31
30	9.05386		9.05666		0.94334	9.99720	30
	Cos. 83		Cot. 83		Tang. 83	Sin. 83	

′	Sin. 6	Dif.	Tang. 6	D.c.	Cot. 6	Cos. 6	′
30	9.05386	111	9.05666	112	0.94334	9.99720	30
31	9.05497	110	9.05778	112	0.94222	9.99718	29
32	9.05607	110	9.05890	112	0.94110	9.99717	28
33	9.05717	110	9.06002	111	0.93998	9.99716	27
34	9.05827	110	9.06113	111	0.93887	9.99714	26
35	9.05937	109	9.06224	111	0.93776	9.99713	25
36	9.06046	109	9.06335	110	0.93665	9.99711	24
37	9.06155	109	9.06445	111	0.93555	9.99710	23
38	9.06264	108	9.06556	110	0.93444	9.99708	22
39	9.06372	109	9.06666	109	0.93334	9.99707	21
40	9.06481	108	9.06775	110	0.93225	9.99705	20
41	9.06589	107	9.06885	109	0.93115	9.99704	19
42	9.06696	108	9.06994	109	0.93006	9.99702	18
43	9.06804	107	9.07103	108	0.92897	9.99701	17
44	9.06911	107	9.07211	109	0.92789	9.99699	16
45	9.07018	106	9.07320	108	0.92680	9.99698	15
46	9.07124	107	9.07428	108	0.92572	9.99696	14
47	9.07231	106	9.07536	107	0.92464	9.99695	13
48	9.07337	105	9.07643	108	0.92357	9.99693	12
49	9.07442	106	9.07751	107	0.92249	9.99692	11
50	9.07548	105	9.07858	106	0.92142	9.99690	10
51	9.07653	105	9.07964	107	0.92036	9.99689	9
52	9.07758	105	9.08071	106	0.91929	9.99687	8
53	9.07863	105	9.08177	106	0.91823	9.99686	7
54	9.07968	104	9.08283	106	0.91717	9.99684	6
55	9.08072	104	9.08389	106	0.91611	9.99683	5
56	9.08176	104	9.08495	105	0.91505	9.99681	4
57	9.08280	103	9.08600	105	0.91400	9.99680	3
58	9.08383	103	9.08705	105	0.91295	9.99678	2
59	9.08486	103	9.08810	104	0.91190	9.99677	1
60	9.08589		9.08914		0.91086	9.99675	0
	Cos. 83		Cot. 83		Tang. 83	Sin. 83	

′	Sin. 7	Dif.	Tang. 7	D.c.	Cot. 7	Cos. 7	′
0	9.08589		9.08914		0.91086	9.99675	60
1	9.08692	103	9.09019	105	0.90981	9.99674	59
2	9.08795	103	9.09123	104	0.90877	9.99672	58
3	9.08897	102	9.09227	104	0.90773	9.99670	57
4	9.08999	102	9.09330	103	0.90670	9.99669	56
5	9.09101	102	9.09434	104	0.90566	9.99667	55
6	9.09202	101	9.09537	103	0.90463	9.99666	54
7	9.09304	102	9.09640	103	0.90360	9.99664	53
8	9.09405	101	9.09742	102	0.90258	9.99663	52
9	9.09506	101	9.09845	103	0.90155	9.99661	51
10	9.09606	100	9.09947	102	0.90053	9.99659	50
11	9.09707	101	9.10049	102	0.89951	9.99658	49
12	9.09807	100	9.10150	101	0.89850	9.99656	48
13	9.09907	100	9.10252	102	0.89748	9.99655	47
14	9.10006	99	9.10353	101	0.89647	9.99653	46
15	9.10106	100	9.10454	101	0.89546	9.99651	45
16	9.10205	99	9.10555	101	0.89445	9.99650	44
17	9.10304	99	9.10656	101	0.89344	9.99648	43
18	9.10402	98	9.10756	100	0.89244	9.99647	42
19	9.10501	99	9.10856	100	0.89144	9.99645	41
20	9.10599	98	9.10956	100	0.89044	9.99643	40
21	9.10697	98	9.11056	100	0.88944	9.99642	39
22	9.10795	98	9.11155	99	0.88845	9.99640	38
23	9.10893	98	9.11254	99	0.88746	9.99638	37
24	9.10990	97	9.11353	99	0.88647	9.99637	36
25	9.11087	97	9.11452	99	0.88548	9.99635	35
26	9.11184	97	9.11551	99	0.88449	9.99633	34
27	9.11281	97	9.11649	98	0.88351	9.99632	33
28	9.11377	96	9.11747	98	0.88253	9.99630	32
29	9.11474	97	9.11845	98	0.88155	9.99629	31
30	9.11570	96	9.11943	98	0.88057	9.99627	30
	Cos. 82		Cot. 82		Tang. 82	Sin. 82	

′	Sin. 7	D.	Tang. 7	d c	Cot. 7	Cos. 7	′
30	9.11570	96	9.11943	97	0.88057	9.99627	30
31	9.11666	95	9.12040	98	0.87960	9.99625	29
32	9.11761	96	9.12138	97	0.87862	9.99624	28
33	9.11857	95	9.12235	97	0.87765	9.99622	27
34	9.11952	95	9.12332	96	0.87668	9.99620	26
35	9.12047	95	9.12428	97	0.87572	9.99618	25
36	9.12142	94	9.12525	96	0.87475	9.99617	24
37	9.12236	95	9.12621	96	0.87379	9.99615	23
38	9.12331	94	9.12717	96	0.87283	9.99613	22
39	9.12425	94	9.12813	96	0.87187	9.99612	21
40	9.12519	93	9.12909	95	0.87091	9.99610	20
41	9.12612	94	9.13004	95	0.86996	9.99608	19
42	9.12706	93	9.13099	95	0.86901	9.99607	18
43	9.12799	93	9.13194	95	0.86806	9.99605	17
44	9.12892	93	9.13289	95	0.86711	9.99603	16
45	9.12985	93	9.13384	94	0.86616	9.99601	15
46	9.13078	93	9.13478	95	0.86522	9.99600	14
47	9.13171	92	9.13573	94	0.86427	9.99598	13
48	9.13263	92	9.13667	94	0.86333	9.99596	12
49	9.13355	92	9.13761	93	0.86239	9.99595	11
50	9.13447	92	9.13854	94	0.86146	9.99593	10
51	9.13539	91	9.13948	93	0.86052	9.99591	9
52	9.13630	92	9.14041	93	0.85959	9.99589	8
53	9.13722	91	9.14134	93	0.85866	9.99588	7
54	9.13813	91	9.14227	93	0.85773	9.99586	6
55	9.13904	90	9.14320	92	0.85680	9.99584	5
56	9.13994	91	9.14412	92	0.85588	9.99582	4
57	9.14085	90	9.14504	93	0.85496	9.99581	3
58	9.14175	91	9.14597	91	0.85403	9.99579	2
59	9.14266	90	9.14688	92	0.85312	9.99577	1
60	9.14356		9.14780		0.85220	9.99575	0
	Cos. 82		Cot. 82		Tang. 82	Sin. 82	

′	Sin. 8	D.	Tang. 8	d c	Cot. 8	Cos. 8	′
0	9.14356		9.14780		0.85220	9.99575	60
1	9.14445	89	9.14872	92	0.85128	9.99574	59
2	9.14535	90	9.14963	91	0.85037	9.99572	58
3	9.14624	89	9.15054	91	0.84946	9.99570	57
4	9.14714	90	9.15145	91	0.84855	9.99568	56
5	9.14803	89	9.15236	91	0.84764	9.99566	55
6	9.14891	88	9.15327	91	0.84673	9.99565	54
7	9.14980	89	9.15417	90	0.84583	9.99563	53
8	9.15069	89	9.15508	91	0.84492	9.99561	52
9	9.15157	88	9.15598	90	0.84402	9.99559	51
10	9.15245	88	9.15688	90	0.84312	9.99557	50
11	9.15333	88	9.15777	89	0.84223	9.99556	49
12	9.15421	88	9.15867	90	0.84133	9.99554	48
13	9.15508	87	9.15956	89	0.84044	9.99552	47
14	9.15596	88	9.16046	90	0.83954	9.99550	46
15	9.15683	87	9.16135	89	0.83865	9.99548	45
16	9.15770	87	9.16224	89	0.83776	9.99546	44
17	9.15857	87	9.16312	88	0.83688	9.99545	43
18	9.15944	87	9.16401	89	0.83599	9.99543	42
19	9.16030	86	9.16489	88	0.83511	9.99541	41
20	9.16116	86	9.16577	88	0.83423	9.99539	40
21	9.16203	87	9.16665	88	0.83335	9.99537	39
22	9.16289	86	9.16753	88	0.83247	9.99535	38
23	9.16374	85	9.16841	88	0.83159	9.99533	37
24	9.16460	86	9.16928	87	0.83072	9.99532	36
25	9.16545	85	9.17016	88	0.82984	9.99530	35
26	9.16631	86	9.17103	87	0.82897	9.99528	34
27	9.16716	85	9.17190	87	0.82810	9.99526	33
28	9.16801	85	9.17277	87	0.82723	9.99524	32
29	9.16886	85	9.17363	86	0.82637	9.99522	31
30	9.16970	84	9.17450	87	0.82550	9.99520	30
	Cos. 81		Cot. 81		Tang. 81	Sin. 81	′

′	Sin. 8	D.	Tang. 8	d c	Cot. 8	Cos. 8	′
30	9.16970	85	9.17450	86	0.82550	9.99520	30
31	9.17055	84	9.17536	86	0.82464	9.99518	29
32	9.17139	84	9.17622	86	0.82378	9.99517	28
33	9.17223	84	9.17708	86	0.82292	9.99515	27
34	9.17307	84	9.17794	86	0.82206	9.99513	26
35	9.17391	83	9.17880	85	0.82120	9.99511	25
36	9.17474	84	9.17965	86	0.82035	9.99509	24
37	9.17558	83	9.18051	85	0.81949	9.99507	23
38	9.17641	83	9.18136	85	0.81864	9.99505	22
39	9.17724	83	9.18221	85	0.81779	9.99503	21
40	9.17807	83	9.18306	85	0.81694	9.99501	20
41	9.17890	83	9.18391	84	0.81609	9.99499	19
42	9.17973	82	9.18475	85	0.81525	9.99497	18
43	9.18055	82	9.18560	84	0.81440	9.99495	17
44	9.18137	83	9.18644	84	0.81356	9.99494	16
45	9.18220	82	9.18728	84	0.81272	9.99492	15
46	9.18302	81	9.18812	84	0.81188	9.99490	14
47	9.18383	82	9.18896	83	0.81104	9.99488	13
48	9.18465	82	9.18979	84	0.81021	9.99486	12
49	9.18547	81	9.19063	83	0.80937	9.99484	11
50	9.18628	81	9.19146	83	0.80854	9.99482	10
51	9.18709	81	9.19229	83	0.80771	9.99480	9
52	9.18790	81	9.19312	83	0.80688	9.99478	8
53	9.18871	81	9.19395	83	0.80605	9.99476	7
54	9.18952	81	9.19478	83	0.80522	9.99474	6
55	9.19033	80	9.19561	82	0.80439	9.99472	5
56	9.19113	80	9.19643	82	0.80357	9.99470	4
57	9.19193	80	9.19725	82	0.80275	9.99468	3
58	9.19273	80	9.19807	82	0.80193	9.99466	2
59	9.19353	80	9.19889	82	0.80111	9.99464	1
60	9.19433		9.19971		0.80029	9.99462	0
′	Cos. 81		Cot. 81		Tang. 81	Sin. 81	′

′	Sin. 9	D	Tang. 9	d c	Cot. 9	Cos. 9.	′
0	9.19433	80	9.19971	82	0.80029	9.99462	60
1	9.19513	79	9.20053	81	0.79947	9.99460	59
2	9.19592	80	9.20134	82	0.79866	9.99458	58
3	9.19672	79	9.20216	81	0.79784	9.99456	57
4	9.19751	79	9.20297	81	0.79703	9.99454	56
5	9.19830	79	9.20378	81	0.79622	9.99452	55
6	9.19909	79	9.20459	81	0.79541	9.99450	54
7	9.19988	79	9.20540	81	0.79460	9.99448	53
8	9.20067	78	9.20621	80	0.79379	9.99446	52
9	9.20145	78	9.20701	81	0.79299	9.99444	51
10	9.20223	79	9.20782	80	0.79218	9.99442	50
11	9.20302	78	9.20862	80	0.79138	9.99440	49
12	9.20380	78	9.20942	80	0.79058	9.99438	48
13	9.20458	77	9.21022	80	0.78978	9.99436	47
14	9.20535	78	9.21102	80	0.78898	9.99434	46
15	9.20613	78	9.21182	79	0.78818	9.99432	45
16	9.20691	77	9.21261	80	0.78739	9.99429	44
17	9.20768	77	9.21341	79	0.78659	9.99427	43
18	9.20845	77	9.21420	79	0.78580	9.99425	42
19	9.20922	77	9.21499	79	0.78501	9.99423	41
20	9.20999	77	9.21578	79	0.78422	9.99421	40
21	9.21076	77	9.21657	79	0.78343	9.99419	39
22	9.21153	76	9.21736	78	0.78264	9.99417	38
23	9.21229	77	9.21814	79	0.78186	9.99415	37
24	9.21306	76	9.21893	78	0.78107	9.99413	36
25	9.21382	76	9.21971	78	0.78029	9.99411	35
26	9.21458	76	9.22049	78	0.77951	9.99409	34
27	9.21534	76	9.22127	78	0.77873	9.99407	33
28	9.21610	75	9.22205	78	0.77795	9.99404	32
29	9.21685	76	9.22283	78	0.77717	9.99402	31
30	9.21761		9.22361		0.77639	9.99400	30
	Cos. 80		Cot. 80		Tang. 80	Sin. 80	

′	Sin. 9	D.	Tang. 9	d c	Cot. 9	Cos. 9	′
30	9.21761	75	9.22361	77	0.77639	9.99400	30
31	9.21836	76	9.22438	78	0.77562	9.99398	29
32	9.21912	75	9.22516	77	0.77484	9.99396	28
33	9.21987	75	9.22593	77	0.77407	9.99394	27
34	9.22062	75	9.22670	77	0.77330	9.99392	26
35	9.22137	74	9.22747	77	0.77253	9.99390	25
36	9.22211	75	9.22824	77	0.77176	9.99388	24
37	9.22286	75	9.22901	76	0.77099	9.99385	23
38	9.22361	74	9.22977	77	0.77023	9.99383	22
39	9.22435	74	9.23054	76	0.76946	9.99381	21
40	9.22509	74	9.23130	76	0.76870	9.99379	20
41	9.22583	74	9.23206	77	0.76794	9.99377	19
42	9.22657	74	9.23283	76	0.76717	9.99375	18
43	9.22731	74	9.23359	76	0.76641	9.99372	17
44	9.22805	73	9.23435	75	0.76565	9.99370	16
45	9.22878	74	9.23510	76	0.76490	9.99368	15
46	9.22952	73	9.23586	75	0.76414	9.99366	14
47	9.23025	73	9.23661	76	0.76339	9.99364	13
48	9.23098	73	9.23737	75	0.76263	9.99362	12
49	9.23171	73	9.23812	75	0.76188	9.99359	11
50	9.23244	73	9.23887	75	0.76113	9.99357	10
51	9.23317	73	9.23962	75	0.76038	9.99355	9
52	9.23390	72	9.24037	75	0.75963	9.99353	8
53	9.23462	73	9.24112	74	0.75888	9.99351	7
54	9.23535	72	9.24186	75	0.75814	9.99348	6
55	9.23607	72	9.24261	74	0.75739	9.99346	5
56	9.23679	73	9.24335	75	0.75665	9.99344	4
57	9.23752	71	9.24410	74	0.75590	9.99342	3
58	9.23823	72	9.24484	74	0.75516	9.99340	2
59	9.23895	72	9.24558	74	0.75442	9.99337	1
60	9.23967		9.24632		0.75368	9.99335	0
	Cos. 80		Cot. 80		Tang. 80	Sin. 80	

′	Sin. 10	D.	Tang. 10	d c	Cot. 10	Cos. 10	′
0	9.23967	72	9.24632	74	0.75368	9.99335	60
1	9.24039	71	9.24706	73	0.75294	9.99333	59
2	9.24110	71	9.24779	74	0.75221	9.99331	58
3	9.24181	72	9.24853	73	0.75147	9.99328	57
4	9.24253	71	9.24926	74	0.75074	9.99326	56
5	9.24324	71	9.25000	73	0.75000	9.99324	55
6	9.24395	71	9.25073	73	0.74927	9.99322	54
7	9.24466	70	9.25146	73	0.74854	9.99319	53
8	9.24536	71	9.25219	73	0.74781	9.99317	52
9	9.24607	70	9.25292	73	0.74708	9.99315	51
10	9.24677	71	9.25365	72	0.74635	9.99313	50
11	9.24748	70	9.25437	73	0.74563	9.99310	49
12	9.24818	70	9.25510	72	0.74490	9.99308	48
13	9.24888	70	9.25582	73	0.74418	9.99306	47
14	9.24958	70	9.25655	72	0.74345	9.99304	46
15	9.25028	70	9.25727	72	0.74273	9.99301	45
16	9.25098	70	9.25799	72	0.74201	9.99299	44
17	9.25168	69	9.25871	72	0.74129	9.99297	43
18	9.25237	70	9.25943	72	0.74057	9.99294	42
19	9.25307	69	9.26015	71	0.73985	9.99292	41
20	9.25376	69	9.26086	72	0.73914	9.99290	40
21	9.25445	69	9.26158	71	0.73842	9.99288	39
22	9.25514	69	9.26229	72	0.73771	9.99285	38
23	9.25583	69	9.26301	71	0.73699	9.99283	37
24	9.25652	69	9.26372	71	0.73628	9.99281	36
25	9.25721	69	9.26443	71	0.73557	9.99278	35
26	9.25790	68	9.26514	71	0.73486	9.99276	34
27	9.25858	69	9.26585	70	0.73415	9.99274	33
28	9.25927	68	9.26655	71	0.73345	9.99271	32
29	9.25995	68	9.26726	71	0.73274	9.99269	31
30	9.26063		9.26797		0.73203	9.99267	30
	Cos. 79		Cot. 79		Tang. 79	Sin. 79	

′	Sin. 10	D.	Tang. 10	d c	Cot. 10	Cos. 10	′
30	9.26063		9.26797		0.73203	9.99267	30
31	9.26131	68	9.26867	70	0.73133	9.99264	29
32	9.26199	68	9.26937	70	0.73063	9.99262	28
33	9.26267	68	9.27008	71	0.72992	9.99260	27
34	9.26335	68	9.27078	70	0.72922	9.99257	26
35	9.26403	68	9.27148	70	0.72852	9.99255	25
36	9.26470	67	9.27218	70	0.72782	9.99252	24
37	9.26538	68	9.27288	70	0.72712	9.99250	23
38	9.26605	67	9.27357	69	0.72643	9.99248	22
39	9.26672	67	9.27427	70	0.72573	9.99245	21
40	9.26739	67	9.27496	69	0.72504	9.99243	20
41	9.26806	67	9.27566	70	0.72434	9.99241	19
42	9.26873	67	9.27635	69	0.72365	9.99238	18
43	9.26940	67	9.27704	69	0.72296	9.99236	17
44	9.27007	67	9.27773	69	0.72227	9.99233	16
45	9.27073	66	9.27842	69	0.72158	9.99231	15
46	9.27140	67	9.27911	69	0.72089	9.99229	14
47	9.27206	66	9.27980	69	0.72020	9.99226	13
48	9.27273	67	9.28049	69	0.71951	9.99224	12
49	9.27339	66	9.28117	68	0.71883	9.99221	11
50	9.27405	66	9.28186	69	0.71814	9.99219	10
51	9.27471	66	9.28254	68	0.71746	9.99217	9
52	9.27537	66	9.28323	69	0.71677	9.99214	8
53	9.27602	65	9.28391	68	0.71609	9.99212	7
54	9.27668	66	9.28459	68	0.71541	9.99209	6
55	9.27734	66	9.28527	68	0.71473	9.99207	5
56	9.27799	65	9.28595	68	0.71405	9.99204	4
57	9.27864	65	9.28662	67	0.71338	9.99202	3
58	9.27930	66	9.28730	68	0.71270	9.99200	2
59	9.27995	65	9.28798	68	0.71202	9.99197	1
60	9.28060	65	9.28865	67	0.71135	9.99195	0
	Cos. 79		Cot. 79°		Tang. 79	Sin. 79	

′	Sin. 11	D.	Tang. 11	d c	Cot. 11	Cos. 11	′
0	9.28060	65	9.28865	68	0.71135	9.99195	60
1	9.28125	65	9.28933	67	0.71067	9.99192	59
2	9.28190	64	9.29000	67	0.71000	9.99190	58
3	9.28254	65	9.29067	67	0.70933	9.99187	57
4	9.28319	65	9.29134	67	0.70866	9.99185	56
5	9.28384	64	9.29201	67	0.70799	9.99182	55
6	9.28448	64	9.29268	67	0.70732	9.99180	54
7	9.28512	65	9.29335	67	0.70665	9.99177	53
8	9.28577	64	9.29402	66	0.70598	9.99175	52
9	9.28641	64	9.29468	67	0.70532	9.99172	51
10	9.28705	64	9.29535	66	0.70465	9.99170	50
11	9.28769	64	9.29601	67	0.70399	9.99167	49
12	9.28833	63	9.29668	66	0.70332	9.99165	48
13	9.28896	64	9.29734	66	0.70266	9.99162	47
14	9.28960	64	9.29800	66	0.70200	9.99160	46
15	9.29024	63	9.29866	66	0.70134	9.99157	45
16	9.29087	63	9.29932	66	0.70068	9.99155	44
17	9.29150	64	9.29998	66	0.70002	9.99152	43
18	9.29214	63	9.30064	66	0.69936	9.99150	42
19	9.29277	63	9.30130	65	0.69870	9.99147	41
20	9.29340	63	9.30195	66	0.69805	9.99145	40
21	9.29403	63	9.30261	65	0.69739	9.99142	39
22	9.29466	63	9.30326	65	0.69674	9.99140	38
23	9.29529	62	9.30391	66	0.69609	9.99137	37
24	9.29591	63	9.30457	65	0.69543	9.99135	36
25	9.29654	62	9.30522	65	0.69478	9.99132	35
26	9.29716	63	9.30587	65	0.69413	9.99130	34
27	9.29779	62	9.30652	65	0.69348	9.99127	33
28	9.29841	62	9.30717	65	0.69283	9.99124	32
29	9.29903	63	9.30782	64	0.69218	9.99122	31
30	9.29966		9.30846		0.69154	9.99119	30
	Cos. 78		Cot. 78		Tang. 78	Sin. 78	

′	Sin. 11	D	Tang. 11	d c	Cot. 11	Cos. 11	′
30	9.29966	62	9.30846	65	0.69154	9.99119	30
31	9.30028	62	9.30911	64	0.69089	9.99117	29
32	9.30090	61	9.30975	65	0.69025	9.99114	28
33	9.30151	62	9.31040	64	0.68960	9.99112	27
34	9.30213	62	9.31104	64	0.68896	9.99109	26
35	9.30275	61	9.31168	65	0.68832	9.99106	25
36	9.30336	62	9.31233	64	0.68767	9.99104	24
37	9.30398	61	9.31297	64	0.68703	9.99101	23
38	9.30459	62	9.31361	64	0.68639	9.99099	22
39	9.30521	61	9.31425	64	0.68575	9.99096	21
40	9.30582	61	9.31489	63	0.68511	9.99093	20
41	9.30643	61	9.31552	64	0.68448	9.99091	19
42	9.30704	61	9.31616	63	0.68384	9.99088	18
43	9.30765	61	9.31679	64	0.68321	9.99086	17
44	9.30826	61	9.31743	63	0.68257	9.99083	16
45	9.30887	60	9.31806	64	0.68194	9.99080	15
46	9.30947	61	9.31870	63	0.68130	9.99078	14
47	9.31008	60	9.31933	63	0.68067	9.99075	13
48	9.31068	61	9.31996	63	0.68004	9.99072	12
49	9.31129	60	9.32059	63	0.67941	9.99070	11
50	9.31189	61	9.32122	63	0.67878	9.99067	10
51	9.31250	60	9.32185	63	0.67815	9.99064	9
52	9.31310	60	9.32248	63	0.67752	9.99062	8
53	9.31370	60	9.32311	62	0.67689	9.99059	7
54	9.31430	60	9.32373	63	0.67627	9.99056	6
55	9.31490	59	9.32436	62	0.67564	9.99054	5
56	9.31549	60	9.32498	63	0.67502	9.99051	4
57	9.31609	60	9.32561	62	0.67439	9.99048	3
58	9.31669	59	9.32623	62	0.67377	9.99046	2
59	9.31728	60	9.32685	62	0.67315	9.99043	1
60	9.31788		9.32747		0.67253	9.99040	0
	Cos. 78		Cot. 78		Tang. 78	Sin. 78	

′	Sin. 12	D.	Tang. 12	d c	Cot. 12	Cos. 12	′
0	9.31788		9.32747		0.67253	9.99040	60
1	9.31847	59	9.32810	63	0.67190	9.99038	59
2	9.31907	60	9.32872	62	0.67128	9.99035	58
3	9.31966	59	9.32933	61	0.67067	9.99032	57
4	9.32025	59	9.32995	62	0.67005	9.99030	56
5	9.32084	59	9.33057	62	0.66943	9.99027	55
6	9.32143	59	9.33119	62	0.66881	9.99024	54
7	9.32202	59	9.33180	61	0.66820	9.99022	53
8	9.32261	59	9.33242	62	0.66758	9.99019	52
9	9.32319	58	9.33303	61	0.66697	9.99016	51
10	9.32378	59	9.33365	62	0.66635	9.99013	50
11	9.32437	59	9.33426	61	0.66574	9.99011	49
12	9.32495	58	9.33487	61	0.66513	9.99008	48
13	9.32553	58	9.33548	61	0.66452	9.99005	47
14	9.32612	59	9.33609	61	0.66391	9.99002	46
15	9.32670	58	9.33670	61	0.66330	9.99000	45
16	9.32728	58	9.33731	61	0.66269	9.98997	44
17	9.32786	58	9.33792	61	0.66208	9.98994	43
18	9.32844	58	9.33853	61	0.66147	9.98991	42
19	9.32902	58	9.33913	60	0.66087	9.98989	41
20	9.32960	58	9.33974	61	0.66026	9.98986	40
21	9.33018	58	9.34034	60	0.65966	9.98983	39
22	9.33075	57	9.34095	61	0.65905	9.98980	38
23	9.33133	58	9.34155	60	0.65845	9.98978	37
24	9.33190	57	9.34215	60	0.65785	9.98975	36
25	9.33248	58	9.34276	61	0.65724	9.98972	35
26	9.33305	57	9.34336	60	0.65664	9.98969	34
27	9.33362	57	9.34396	60	0.65604	9.98967	33
28	9.33420	58	9.34456	60	0.65544	9.98964	32
29	9.33477	57	9.34516	60	0.65484	9.98961	31
30	9.33534	57	9.34576	60	0.65424	9.98958	30
	Cos. 77		Cot. 77		Tang. 77	Sin. 77	

′	Sin. 12	D.	Tang. 12	d c	Cot. 12	Cos. 12	′
30	9.33534	57	9.34576	59	0.65424	9.98958	30
31	9.33591	56	9.34635	60	0.65365	9.98955	29
32	9.33647	57	9.34695	60	0.65305	9.98953	28
33	9.33704	57	9.34755	59	0.65245	9.98950	27
34	9.33761	57	9.34814	60	0.65186	9.98947	26
35	9.33818	56	9.34874	59	0.65126	9.98944	25
36	9.33874	57	9.34933	59	0.65067	9.98941	24
37	9.33931	56	9.34992	59	0.65008	9.98938	23
38	9.33987	56	9.35051	60	0.64949	9.98936	22
39	9.34043	57	9.35111	59	0.64889	9.98933	21
40	9.34100	56	9.35170	59	0.64830	9.98930	20
41	9.34156	56	9.35229	59	0.64771	9.98927	19
42	9.34212	56	9.35288	59	0.64712	9.98924	18
43	9.34268	56	9.35347	58	0.64653	9.98921	17
44	9.34324	56	9.35405	59	0.64595	9.98919	16
45	9.34380	56	9.35464	59	0.64536	9.98916	15
46	9.34436	55	9.35523	58	0.64477	9.98913	14
47	9.34491	56	9.35581	59	0.64419	9.98910	13
48	9.34547	55	9.35640	58	0.64360	9.98907	12
49	9.34602	56	9.35698	59	0.64302	9.98904	11
50	9.34658	55	9.35757	58	0.64243	9.98901	10
51	9.34713	56	9.35815	58	0.64185	9.98898	9
52	9.34769	55	9.35873	58	0.64127	9.98896	8
53	9.34824	55	9.35931	58	0.64069	9.98893	7
54	9.34879	55	9.35989	58	0.64011	9.98890	6
55	9.34934	55	9.36047	58	0.63953	9.98887	5
56	9.34989	55	9.36105	58	0.63895	9.98884	4
57	9.35044	55	9.36163	58	0.63837	9.98881	3
58	9.35099	55	9.36221	58	0.63779	9.98878	2
59	9.35154	55	9.36279	57	0.63721	9.98875	1
60	9.35209		9.36336		0.63664	9.98872	0
	Cos. 77		Cot. 77		Tang. 77	Sin. 77	

′	Sin. 13	D.	Tang. 13	d c	Cot. 13	Cos. 13	′
0	9.35209	54	9.36336	58	0.63664	9.98872	60
1	9.35263	55	9.36394	58	0.63606	9.98869	59
2	9.35318	55	9.36452	57	0.63548	9.98867	58
3	9.35373	54	9.36509	57	0.63491	9.98864	57
4	9.35427	54	9.36566	58	0.63434	9.98861	56
5	9.35481	55	9.36624	57	0.63376	9.98858	55
6	9.35536	54	9.36681	57	0.63319	9.98855	54
7	9.35590	54	9.36738	57	0.63262	9.98852	53
8	9.35644	54	9.36795	57	0.63205	9.98849	52
9	9.35698	54	9.36852	57	0.63148	9.98846	51
10	9.35752	54	9.36909	57	0.63091	9.98843	50
11	9.35806	54	9.36966	57	0.63034	9.98840	49
12	9.35860	54	9.37023	57	0.62977	9.98837	48
13	9.35914	54	9.37080	57	0.62920	9.98834	47
14	9.35968	54	9.37137	56	0.62863	9.98831	46
15	9.36022	53	9.37193	57	0.62807	9.98828	45
16	9.36075	54	9.37250	56	0.62750	9.98825	44
17	9.36129	53	9.37306	57	0.62694	9.98822	43
18	9.36182	54	9.37363	56	0.62637	9.98819	42
19	9.36236	53	9.37419	57	0.62581	9.98816	41
20	9.36289	53	9.37476	56	0.62524	9.98813	40
21	9.36342	53	9.37532	56	0.62468	9.98810	39
22	9.36395	54	9.37588	56	0.62412	9.98807	38
23	9.36449	53	9.37644	56	0.62356	9.98804	37
24	9.36502	53	9.37700	56	0.62300	9.98801	36
25	9.36555	53	9.37756	56	0.62244	9.98798	35
26	9.36608	52	9.37812	56	0.62188	9.98795	34
27	9.36660	53	9.37868	56	0.62132	9.98792	33
28	9.36713	53	9.37924	56	0.62076	9.98789	32
29	9.36766	53	9.37980	55	0.62020	9.98786	31
30	9.36819		9.38035		0.61965	9.98783	30
	Cos. 76		Cot. 76		Tang. 76	Sin. 76	

′	Sin. 13	D.	Tang. 13	d c	Cot. 13	Cos. 13	′
30	9.36819	52	9.38035	56	0.61965	9.98783	30
31	9.36871	53	9.38091	56	0.61909	9.98780	29
32	9.36924	52	9.38147	55	0.61853	9.98777	28
33	9.36976	52	9.38202	55	0.61798	9.98774	27
34	9.37028	53	9.38257	56	0.61743	9.98771	26
35	9.37081	52	9.38313	55	0.61687	9.98768	25
36	9.37133	52	9.38368	55	0.61632	9.98765	24
37	9.37185	52	9.38423	56	0.61577	9.98762	23
38	9.37237	52	9.38479	55	0.61521	9.98759	22
39	9.37289	52	9.38534	55	0.61466	9.98756	21
40	9.37341	52	9.38589	55	0.61411	9.98753	20
41	9.37393	52	9.38644	55	0.61356	9.98750	19
42	9.37445	52	9.38699	55	0.61301	9.98746	18
43	9.37497	52	9.38754	54	0.61246	9.98743	17
44	9.37549	51	9.38808	55	0.61192	9.98740	16
45	9.37600	52	9.38863	55	0.61137	9.98737	15
46	9.37652	51	9.38918	54	0.61082	9.98734	14
47	9.37703	52	9.38972	55	0.61028	9.98731	13
48	9.37755	51	9.39027	55	0.60973	9.98728	12
49	9.37806	52	9.39082	54	0.60918	9.98725	11
50	9.37858	51	9.39136	54	0.60864	9.98722	10
51	9.37909	51	9.39190	55	0.60810	9.98719	9
52	9.37960	51	9.39245	54	0.60755	9.98715	8
53	9.38011	51	9.39299	54	0.60701	9.98712	7
54	9.38062	51	9.39353	54	0.60647	9.98709	6
55	9.38113	51	9.39407	54	0.60593	9.98706	5
56	9.38164	51	9.39461	54	0.60539	9.98703	4
57	9.38215	51	9.39515	54	0.60485	9.98700	3
58	9.38266	51	9.39569	54	0.60431	9.98697	2
59	9.38317	51	9.39623	54	0.60377	9.98694	1
60	9.38368		9.39677		0.60323	9.98690	0
	Cos. 76		Cot. 76		Tang. 76	Sin. 76	′

′	Sin. 14	D.	Tang. 14	d c	Cot. 14	Cos. 14	′
0	9.38368	50	9.39677	54	0.60323	9.98690	60
1	9.38418	51	9.39731	54	0.60269	9.98687	59
2	9.38469	50	9.39785	53	0.60215	9.98684	58
3	9.38519	51	9.39838	54	0.60162	9.98681	57
4	9.38570	50	9.39892	53	0.60108	9.98678	56
5	9.38620	50	9.39945	54	0.60055	9.98675	55
6	9.38670	51	9.39999	53	0.60001	9.98671	54
7	9.38721	50	9.40052	54	0.59948	9.98668	53
8	9.38771	50	9.40106	53	0.59894	9.98665	52
9	9.38821	50	9.40159	53	0.59841	9.98662	51
10	9.38871	50	9.40212	54	0.59788	9.98659	50
11	9.38921	50	9.40266	53	0.59734	9.98656	49
12	9.38971	50	9.40319	53	0.59681	9.98652	48
13	9.39021	50	9.40372	53	0.59628	9.98649	47
14	9.39071	50	9.40425	53	0.59575	9.98646	46
15	9.39121	49	9.40478	53	0.59522	9.98643	45
16	9.39170	50	9.40531	53	0.59469	9.98640	44
17	9.39220	50	9.40584	52	0.59416	9.98636	43
18	9.39270	49	9.40636	53	0.59364	9.98633	42
19	9.39319	50	9.40689	53	0.59311	9.98630	41
20	9.39369	49	9.40742	53	0.59258	9.98627	40
21	9.39418	49	9.40795	52	0.59205	9.98623	39
22	9.39467	50	9.40847	53	0.59153	9.98620	38
23	9.39517	49	9.40900	52	0.59100	9.98617	37
24	9.39566	49	9.40952	53	0.59048	9.98614	36
25	9.39615	49	9.41005	52	0.58995	9.98610	35
26	9.39664	49	9.41057	52	0.58943	9.98607	34
27	9.39713	49	9.41109	52	0.58891	9.98604	33
28	9.39762	49	9.41161	53	0.58839	9.98601	32
29	9.39811	49	9.41214	52	0.58786	9.98597	31
30	9.39860		9.41266		0.58734	9.98594	30
	Cos. 75		Cot. 75		Tang. 75	Sin. 75	

′	Sin. 14	D.	Tang. 14	d c	Cot. 14	Cos. 14	′
30	9.39860	49	9.41266	52	0.58734	9.98594	30
31	9.39909	49	9.41318	52	0.58682	9.98591	29
32	9.39958	48	9.41370	52	0.58630	9.98588	28
33	9.40006	49	9.41422	52	0.58578	9.98584	27
34	9.40055	48	9.41474	52	0.58526	9.98581	26
35	9.40103	49	9.41526	52	0.58474	9.98578	25
36	9.40152	48	9.41578	51	0.58422	9.98574	24
37	9.40200	49	9.41629	52	0.58371	9.98571	23
38	9.40249	48	9.41681	52	0.58319	9.98568	22
39	9.40297	49	9.41733	51	0.58267	9.98565	21
40	9.40346	48	9.41784	52	0.58216	9.98561	20
41	9.40394	48	9.41836	51	0.58164	9.98558	19
42	9.40442	48	9.41887	52	0.58113	9.98555	18
43	9.40490	48	9.41939	51	0.58061	9.98551	17
44	9.40538	48	9.41990	51	0.58010	9.98548	16
45	9.40586	48	9.42041	52	0.57959	9.98545	15
46	9.40634	48	9.42093	51	0.57907	9.98541	14
47	9.40682	48	9.42144	51	0.57856	9.98538	13
48	9.40730	48	9.42195	51	0.57805	9.98535	12
49	9.40778	47	9.42246	51	0.57754	9.98531	11
50	9.40825	48	9.42297	51	0.57703	9.98528	10
51	9.40873	48	9.42348	51	0.57652	9.98525	9
52	9.40921	47	9.42399	51	0.57601	9.98521	8
53	9.40968	48	9.42450	51	0.57550	9.98518	7
54	9.41016	47	9.42501	51	0.57499	9.98515	6
55	9.41063	48	9.42552	51	0.57448	9.98511	5
56	9.41111	47	9.42603	50	0.57397	9.98508	4
57	9.41158	47	9.42653	51	0.57347	9.98505	3
58	9.41205	47	9.42704	51	0.57296	9.98501	2
59	9.41252	48	9.42755	50	0.57245	9.98498	1
60	9.41300		9.42805		0.57195	9.98494	0
	Cos. 75		Cot. 75		Tang. 75	Sin. 75	

′	Sin. 15	D.	Tang. 15	d c	Cot. 15	Cos. 15	′
0	9.41300	47	9.42805	51	0.57195	9.98494	60
1	9.41347	47	9.42856	50	0.57144	9.98491	59
2	9.41394	47	9.42906	51	0.57094	9.98488	58
3	9.41441	47	9.42957	50	0.57043	9.98484	57
4	9.41488	47	9.43007	50	0.56993	9.98481	56
5	9.41535	47	9.43057	51	0.56943	9.98477	55
6	9.41582	46	9.43108	50	0.56892	9.98474	54
7	9.41628	47	9.43158	50	0.56842	9.98471	53
8	9.41675	47	9.43208	50	0.56792	9.98467	52
9	9.41722	46	9.43258	50	0.56742	9.98464	51
10	9.41768	47	9.43308	50	0.56692	9.98460	50
11	9.41815	46	9.43358	50	0.56642	9.98457	49
12	9.41861	47	9.43408	50	0.56592	9.98453	48
13	9.41908	46	9.43458	50	0.56542	9.98450	47
14	9.41954	47	9.43508	50	0.56492	9.98447	46
15	9.42001	46	9.43558	49	0.56442	9.98443	45
16	9.42047	46	9.43607	50	0.56393	9.98440	44
17	9.42093	47	9.43657	50	0.56343	9.98436	43
18	9.42140	46	9.43707	49	0.56293	9.98433	42
19	9.42186	46	9.43756	50	0.56244	9.98429	41
20	9.42232	46	9.43806	49	0.56194	9.98426	40
21	9.42278	46	9.43855	50	0.56145	9.98422	39
22	9.42324	46	9.43905	49	0.56095	9.98419	38
23	9.42370	46	9.43954	50	0.56046	9.98415	37
24	9.42416	45	9.44004	49	0.55996	9.98412	36
25	9.42461	46	9.44053	49	0.55947	9.98409	35
26	9.42507	46	9.44102	49	0.55898	9.98405	34
27	9.42553	46	9.44151	50	0.55849	9.98402	33
28	9.42599	45	9.44201	49	0.55799	9.98398	32
29	9.42644	46	9.44250	49	0.55750	9.98395	31
30	9.42690		9.44299		0.55701	9.98391	30
	Cos 74		Cot. 74		Tang. 74	Sin. 74	

′	Sin. 15	D.	Tang. 15	d c	Cot. 15	Cos. 15	′
30	9.42690	45	9.44299	49	0.55701	9.98391	30
31	9.42735	46	9.44348	49	0.55652	9.98388	29
32	9.42781	45	9.44397	49	0.55603	9.98384	28
33	9.42826	46	9.44446	49	0.55554	9.98381	27
34	9.42872	45	9.44495	49	0.55505	9.98377	26
35	9.42917	45	9.44544	48	0.55456	9.98373	25
36	9.42962	46	9.44592	49	0.55408	9.98370	24
37	9.43008	45	9.44641	49	0.55359	9.98366	23
38	9.43053	45	9.44690	48	0.55310	9.98363	22
39	9.43098	45	9.44738	49	0.55262	9.98359	21
40	9.43143	45	9.44787	49	0.55213	9.98356	20
41	9.43188	45	9.44836	48	0.55164	9.98352	19
42	9.43233	45	9.44884	49	0.55116	9.98349	18
43	9.43278	45	9.44933	48	0.55067	9.98345	17
44	9.43323	44	9.44981	48	0.55019	9.98342	16
45	9.43367	45	9.45029	49	0.54971	9.98338	15
46	9.43412	45	9.45078	48	0.54922	9.98334	14
47	9.43457	45	9.45126	48	0.54874	9.98331	13
48	9.43502	44	9.45174	48	0.54826	9.98327	12
49	9.43546	45	9.45222	49	0.54778	9.98324	11
50	9.43591	44	9.45271	48	0.54729	9.98320	10
51	9.43635	45	9.45319	48	0.54681	9.98317	9
52	9.43680	44	9.45367	48	0.54633	9.98313	8
53	9.43724	45	9.45415	48	0.54585	9.98309	7
54	9.43769	44	9.45463	48	0.54537	9.98306	6
55	9.43813	44	9.45511	48	0.54489	9.98302	5
56	9.43857	44	9.45559	47	0.54441	9.98299	4
57	9.43901	45	9.45606	48	0.54394	9.98295	3
58	9.43946	44	9.45654	48	0.54346	9.98291	2
59	9.43990	44	9.45702	48	0.54298	9.98288	1
60	9.44034		9.45750		0.54250	9.98284	0
	Cos. 74		Cot. 74		Tang. 74	Sin. 74	

′	Sin. 16	D.	Tang. 16	d. c.	Cot. 16	Cos. 16	′
0	9.44034	44	9.45750	47	0.54250	9.98284	60
1	9.44078	44	9.45797	48	0.54203	9.98281	59
2	9.44122	44	9.45845	47	0.54155	9.98277	58
3	9.44166	44	9.45892	48	0.54108	9.98273	57
4	9.44210	43	9.45940	47	0.54060	9.98270	56
5	9.44253	44	9.45987	48	0.54013	9.98266	55
6	9.44297	44	9.46035	47	0.53965	9.98262	54
7	9.44341	44	9.46082	48	0.53918	9.98259	53
8	9.44385	43	9.46130	47	0.53870	9.98255	52
9	9.44428	44	9.46177	47	0.53823	9.98251	51
10	9.44472	44	9.46224	47	0.53776	9.98248	50
11	9.44516	43	9.46271	48	0.53729	9.98244	49
12	9.44559	43	9.46319	47	0.53681	9.98240	48
13	9.44602	44	9.46366	47	0.53634	9.98237	47
14	9.44646	43	9.46413	47	0.53587	9.98233	46
15	9.44689	44	9.46460	47	0.53540	9.98229	45
16	9.44733	43	9.46507	47	0.53493	9.98226	44
17	9.44776	43	9.46554	47	0.53446	9.98222	43
18	9.44819	43	9.46601	47	0.53399	9.98218	42
19	9.44862	43	9.46648	46	0.53352	9.98215	41
20	9.44905	43	9.46694	47	0.53306	9.98211	40
21	9.44948	44	9.46741	47	0.53259	9.98207	39
22	9.44992	43	9.46788	47	0.53212	9.98204	38
23	9.45035	42	9.46835	46	0.53165	9.98200	37
24	9.45077	43	9.46881	47	0.53119	9.98196	36
25	9.45120	43	9.46928	47	0.53072	9.98192	35
26	9.45163	43	9.46975	46	0.53025	9.98189	34
27	9.45206	43	9.47021	47	0.52979	9.98185	33
28	9.45249	43	9.47068	46	0.52932	9.98181	32
29	9.45292	42	9.47114	46	0.52886	9.98177	31
30	9.45334		9.47160		0.52840	9.98174	30
	Cos. 73		Cot. 73		Tang. 73	Sin. 73	

′	Sin. 16	D.	Tang. 16	d c	Cot. 16	Cos. 16	′
30	9.45334	43	9.47160	47	0.52840	9.98174	30
31	9.45377	42	9.47207	46	0.52793	9.98170	29
32	9.45419	43	9.47253	46	0.52747	9.98166	28
33	9.45462	42	9.47299	47	0.52701	9.98162	27
34	9.45504	43	9.47346	46	0.52654	9.98159	26
35	9.45547	42	9.47392	46	0.52608	9.98155	25
36	9.45589	43	9.47438	46	0.52562	9.98151	24
37	9.45632	42	9.47484	46	0.52516	9.98147	23
38	9.45674	42	9.47530	46	0.52470	9.98144	22
39	9.45716	42	9.47576	46	0.52424	9.98140	21
40	9.45758	43	9.47622	46	0.52378	9.98136	20
41	9.45801	42	9.47668	46	0.52332	9.98132	19
42	9.45843	42	9.47714	46	0.52286	9.98129	18
43	9.45885	42	9.47760	46	0.52240	9.98125	17
44	9.45927	42	9.47806	46	0.52194	9.98121	16
45	9.45969	42	9.47852	45	0.52148	9.98117	15
46	9.46011	42	9.47897	46	0.52103	9.98113	14
47	9.46053	42	9.47943	46	0.52057	9.98110	13
48	9.46095	41	9.47989	46	0.52011	9.98106	12
49	9.46136	42	9.48035	45	0.51965	9.98102	11
50	9.46178	42	9.48080	46	0.51920	9.98098	10
51	9.46220	42	9.48126	45	0.51874	9.98094	9
52	9.46262	41	9.48171	46	0.51829	9.98090	8
53	9.46303	42	9.48217	45	0.51783	9.98087	7
54	9.46345	41	9.48262	45	0.51738	9.98083	6
55	9.46386	42	9.48307	46	0.51693	9.98079	5
56	9.46428	41	9.48353	45	0.51647	9.98075	4
57	9.46469	42	9.48398	45	0.51602	9.98071	3
58	9.46511	41	9.48443	46	0.51557	9.98067	2
59	9.46552	42	9.48489	45	0.51511	9.98063	1
60	9.46594		9.48534		0.51466	9.98060	0
	Cos. 73		Cot. 73		Tang. 73	Sin. 73	

′	Sin. 17	D.	Tang. 17	d c	Cot. 17	Cos. 17	′
0	9.46594	41	9.48534	45	0.51466	9.98060	60
1	9.46635	41	9.48579	45	0.51421	9.98056	59
2	9.46676	41	9.48624	45	0.51376	9.98052	58
3	9.46717	41	9.48669	45	0.51331	9.98048	57
4	9.46758	42	9.48714	45	0.51286	9.98044	56
5	9.46800	41	9.48759	45	0.51241	9.98040	55
6	9.46841	41	9.48804	45	0.51196	9.98036	54
7	9.46882	41	9.48849	45	0.51151	9.98032	53
8	9.46923	41	9.48894	45	0.51106	9.98029	52
9	9.46964	41	9.48939	45	0.51061	9.98025	51
10	9.47005	40	9.48984	45	0.51016	9.98021	50
11	9.47045	41	9.49029	44	0.50971	9.98017	49
12	9.47086	41	9.49073	45	0.50927	9.98013	48
13	9.47127	41	9.49118	45	0.50882	9.98009	47
14	9.47168	41	9.49163	44	0.50837	9.98005	46
15	9.47209	40	9.49207	45	0.50793	9.98001	45
16	9.47249	41	9.49252	44	0.50748	9.97997	44
17	9.47290	40	9.49296	45	0.50704	9.97993	43
18	9.47330	41	9.49341	44	0.50659	9.97989	42
19	9.47371	40	9.49385	45	0.50615	9.97986	41
20	9.47411	41	9.49430	44	0.50570	9.97982	40
21	9.47452	40	9.49474	45	0.50526	9.97978	39
22	9.47492	41	9.49519	44	0.50481	9.97974	38
23	9.47533	40	9.49563	44	0.50437	9.97970	37
24	9.47573	40	9.49607	45	0.50393	9.97966	36
25	9.47613	41	9.49652	44	0.50348	9.97962	35
26	9.47654	40	9.49696	44	0.50304	9.97958	34
27	9.47694	40	9.49740	44	0.50260	9.97954	33
28	9.47734	40	9.49784	44	0.50216	9.97950	32
29	9.47774	40	9.49828	44	0.50172	9.97946	31
30	9.47814		9.49872		0.50128	9.97942	30
	Cos. 72		Cot. 72		Tang. 72	Sin. 72	

′	Sin. 17	D.	Tang. 17	d c	Cot. 17	Cos. 17	′
30	9.47814	40	9.49872	44	0.50128	9.97942	30
31	9.47854	40	9.49916	44	0.50084	9.97938	29
32	9.47894	40	9.49960	44	0.50040	9.97934	28
33	9.47934	40	9.50004	44	0.49996	9.97930	27
34	9.47974	40	9.50048	44	0.49952	9.97926	26
35	9.48014	40	9.50092	44	0.49908	9.97922	25
36	9.48054	40	9.50136	44	0.49864	9.97918	24
37	9.48094	39	9.50180	43	0.49820	9.97914	23
38	9.48133	40	9.50223	44	0.49777	9.97910	22
39	9.48173	40	9.50267	44	0.49733	9.97906	21
40	9.48213	39	9.50311	44	0.49689	9.97902	20
41	9.48252	40	9.50355	43	0.49645	9.97898	19
42	9.48292	40	9.50398	44	0.49602	9.97894	18
43	9.48332	39	9.50442	43	0.49558	9.97890	17
44	9.48371	40	9.50485	44	0.49515	9.97886	16
45	9.48411	39	9.50529	43	0.49471	9.97882	15
46	9.48450	40	9.50572	44	0.49428	9.97878	14
47	9.48490	39	9.50616	43	0.49384	9.97874	13
48	9.48529	39	9.50659	44	0.49341	9.97870	12
49	9.48568	39	9.50703	43	0.49297	9.97866	11
50	9.48607	40	9.50746	43	0.49254	9.97861	10
51	9.48647	39	9.50789	44	0.49211	9.97857	9
52	9.48686	39	9.50833	43	0.49167	9.97853	8
53	9.48725	39	9.50876	43	0.49124	9.97849	7
54	9.48764	39	9.50919	43	0.49081	9.97845	6
55	9.48803	39	9.50962	43	0.49038	9.97841	5
56	9.48842	39	9.51005	43	0.48995	9.97837	4
57	9.48881	39	9.51048	44	0.48952	9.97833	3
58	9.48920	39	9.51092	43	0.48908	9.97829	2
59	9.48959	39	9.51135	43	0.48865	9.97825	1
60	9.48998		9.51178		0.48822	9.97821	0
	Cos. 72		Cot. 72		Tang. 72	Sin. 72	

′	Sin. 18	D.	Tang. 18	d c	Cot. 18	Cos. 18	′
0	9.48998	39	9.51178	43	0.48822	9.97821	60
1	9.49037	39	9.51221	43	0.48779	9.97817	59
2	9.49076	39	9.51264	42	0.48736	9.97812	58
3	9.49115	38	9.51306	43	0.48694	9.97808	57
4	9.49153	39	9.51349	43	0.48651	9.97804	56
5	9.49192	39	9.51392	43	0.48608	9.97800	55
6	9.49231	38	9.51435	43	0.48565	9.97796	54
7	9.49269	39	9.51478	42	0.48522	9.97792	53
8	9.49308	39	9.51520	43	0.48480	9.97788	52
9	9.49347	38	9.51563	43	0.48437	9.97784	51
10	9.49385	39	9.51606	42	0.48394	9.97779	50
11	9.49424	38	9.51648	43	0.48352	9.97775	49
12	9.49462	38	9.51691	43	0.48309	9.97771	48
13	9.49500	39	9.51734	42	0.48266	9.97767	47
14	9.49539	38	9.51776	43	0.48224	9.97763	46
15	9.49577	38	9.51819	42	0.48181	9.97759	45
16	9.49615	39	9.51861	42	0.48139	9.97754	44
17	9.49654	38	9.51903	43	0.48097	9.97750	43
18	9.49692	38	9.51946	42	0.48054	9.97746	42
19	9.49730	38	9.51988	43	0.48012	9.97742	41
20	9.49768	38	9.52031	42	0.47969	9.97738	40
21	9.49806	38	9.52073	42	0.47927	9.97734	39
22	9.49844	38	9.52115	42	0.47885	9.97729	38
23	9.49882	38	9.52157	43	0.47843	9.97725	37
24	9.49920	38	9.52200	42	0.47800	9.97721	36
25	9.49958	38	9.52242	42	0.47758	9.97717	35
26	9.49996	38	9.52284	42	0.47716	9.97713	34
27	9.50034	38	9.52326	42	0.47674	9.97708	33
28	9.50072	38	9.52368	42	0.47632	9.97704	32
29	9.50110	38	9.52410	42	0.47590	9.97700	31
30	9.50148		9.52452		0.47548	9.97696	30
	Cos. 71		Cot. 71		Tang. 71	Sin. 71	

′	Sin. 18	D	Tang. 18	d c	Cot. 18	Cos. 18	D.	′
30	9.50148	37	9.52452	42	0.47548	9.97696	5	30
31	9.50185	38	9.52494	42	0.47506	9.97691	4	29
32	9.50223	38	9.52536	42	0.47464	9.97687	4	28
33	9.50261	37	9.52578	42	0.47422	9.97683	4	27
34	9.50298	38	9.52620	41	0.47380	9.97679	5	26
35	9.50336	38	9.52661	42	0.47339	9.97674	4	25
36	9.50374	37	9.52703	42	0.47297	9.97670	4	24
37	9.50411	38	9.52745	42	0.47255	9.97666	4	23
38	9.50449	37	9.52787	42	0.47213	9.97662	5	22
39	9.50486	37	9.52829	41	0.47171	9.97657	4	21
40	9.50523	38	9.52870	42	0.47130	9.97653	4	20
41	9.50561	37	9.52912	41	0.47088	9.97649	4	19
42	9.50598	37	9.52953	42	0.47047	9.97645	5	18
43	9.50635	38	9.52995	42	0.47005	9.97640	4	17
44	9.50673	37	9.53037	41	0.46963	9.97636	4	16
45	9.50710	37	9.53078	42	0.46922	9.97632	4	15
46	9.50747	37	9.53120	41	0.46880	9.97628	5	14
47	9.50784	37	9.53161	41	0.46839	9.97623	4	13
48	9.50821	37	9.53202	42	0.46798	9.97619	4	12
49	9.50858	38	9.53244	41	0.46756	9.97615	5	11
50	9.50896	37	9.53285	42	0.46715	9.97610	4	10
51	9.50933	37	9.53327	41	0.46673	9.97606	4	9
52	9.50970	37	9.53368	41	0.46632	9.97602	5	8
53	9.51007	36	9.53409	41	0.46591	9.97597	4	7
54	9.51043	37	9.53450	42	0.46550	9.97593	4	6
55	9.51080	37	9.53492	41	0.46508	9.97589	5	5
56	9.51117	37	9.53533	41	0.46467	9.97584	4	4
57	9.51154	37	9.53574	41	0.46426	9.97580	4	3
58	9.51191	36	9.53615	41	0.46385	9.97576	5	2
59	9.51227	37	9.53656	41	0.46344	9.97571	4	1
60	9.51264		9.53697		0.46303	9.97567		0
	Cos. 71		Cot. 71		Tang. 71	Sin. 71		

′	Sin. 19	D.	Tang. 19	d c	Cot. 19	Cos. 19	D.	′
0	9.51264	37	9.53697	41	0.46303	9.97567	4	60
1	9.51301	37	9.53738	41	0.46262	9.97563	5	59
2	9.51338	36	9.53779	41	0.46221	9.97558	4	58
3	9.51374	37	9.53820	41	0.46180	9.97554	4	57
4	9.51411	36	9.53861	41	0.46139	9.97550	5	56
5	9.51447	37	9.53902	41	0.46098	9.97545	4	55
6	9.51484	36	9.53943	41	0.46057	9.97541	5	54
7	9.51520	37	9.53984	41	0.46016	9.97536	4	53
8	9.51557	36	9.54025	40	0.45975	9.97532	4	52
9	9.51593	36	9.54065	41	0.45935	9.97528	5	51
10	9.51629	37	9.54106	41	0.45894	9.97523	4	50
11	9.51666	36	9.54147	40	0.45853	9.97519	4	49
12	9.51702	36	9.54187	41	0.45813	9.97515	5	48
13	9.51738	36	9.54228	41	0.45772	9.97510	4	47
14	9.51774	37	9.54269	40	0.45731	9.97506	5	46
15	9.51811	36	9.54309	41	0.45691	9.97501	4	45
16	9.51847	36	9.54350	40	0.45650	9.97497	5	44
17	9.51883	36	9.54390	41	0.45610	9.97492	4	43
18	9.51919	36	9.54431	40	0.45569	9.97488	4	42
19	9.51955	36	9.54471	41	0.45529	9.97484	5	41
20	9.51991	36	9.54512	40	0.45488	9.97479	4	40
21	9.52027	36	9.54552	41	0.45448	9.97475	5	39
22	9.52063	36	9.54593	40	0.45407	9.97470	4	38
23	9.52099	36	9.54633	40	0.45367	9.97466	5	37
24	9.52135	36	9.54673	41	0.45327	9.97461	4	36
25	9.52171	36	9.54714	40	0.45286	9.97457	4	35
26	9.52207	35	9.54754	40	0.45246	9.97453	5	34
27	9.52242	36	9.54794	41	0.45206	9.97448	4	33
28	9.52278	36	9.54835	40	0.45165	9.97444	5	32
29	9.52314	36	9.54875	40	0.45125	9.97439	4	31
30	9.52350		9.54915		0.45085	9.97435		30
	Cos. 70		Cot. 70		Tang. 70	Sin. 70.		

′	Sin. 19	D.	Tang. 19	d c	Cot. 19	Cos. 19	D.	′
30	9.52350	35	9.54915	40	0.45085	9.97435	5	30
31	9.52385	36	9.54955	40	0.45045	9.97430	4	29
32	9.52421	35	9.54995	40	0.45005	9.97426	5	28
33	9.52456	36	9.55035	40	0.44965	9.97421	4	27
34	9.52492	35	9.55075	40	0.44925	9.97417	5	26
35	9.52527	36	9.55115	40	0.44885	9.97412	4	25
36	9.52563	35	9.55155	40	0.44845	9.97408	5	24
37	9.52598	36	9.55195	40	0.44805	9.97403	4	23
38	9.52634	35	9.55235	40	0.44765	9.97399	5	22
39	9.52669	36	9.55275	40	0.44725	9.97394	4	21
40	9.52705	35	9.55315	40	0.44685	9.97390	5	20
41	9.52740	35	9.55355	40	0.44645	9.97385	4	19
42	9.52775	36	9.55395	39	0.44605	9.97381	5	18
43	9.52811	35	9.55434	40	0.44566	9.97376	4	17
44	9.52846	35	9.55474	40	0.44526	9.97372	5	16
45	9.52881	35	9.55514	40	0.44486	9.97367	4	15
46	9.52916	35	9.55554	39	0.44446	9.97363	5	14
47	9.52951	35	9.55593	40	0.44407	9.97358	5	13
48	9.52986	35	9.55633	40	0.44367	9.97353	4	12
49	9.53021	35	9.55673	39	0.44327	9.97349	5	11
50	9.53056	36	9.55712	40	0.44288	9.97344	4	10
51	9.53092	34	9.55752	39	0.44248	9.97340	5	9
52	9.53126	35	9.55791	40	0.44209	9.97335	4	8
53	9.53161	35	9.55831	39	0.44169	9.97331	5	7
54	9.53196	35	9.55870	40	0.44130	9.97326	4	6
55	9.53231	35	9.55910	39	0.44090	9.97322	5	5
56	9.53266	35	9.55949	40	0.44051	9.97317	5	4
57	9.53301	35	9.55989	39	0.44011	9.97312	4	3
58	9.53336	34	9.56028	39	0.43972	9.97308	5	2
59	9.53370	35	9.56067	40	0.43933	9.97303	4	1
60	9.53405		9.56107		0.43893	9.97299		0
	Cos. 70		Cot. 70		Tang. 70	Sin. 70		



′	Sin. 20	D.	Tang. 20	d c	Cot. 20	Cos. 20	D.	′
0	9.53405	35	9.56107	39	0.43893	9.97299	5	60
1	9.53440	35	9.56146	39	0.43854	9.97294	5	59
2	9.53475	34	9.56185	39	0.43815	9.97289	4	58
3	9.53509	35	9.56224	40	0.43776	9.97285	5	57
4	9.53544	34	9.56264	39	0.43736	9.97280	4	56
5	9.53578	35	9.56303	39	0.43697	9.97276	5	55
6	9.53613	34	9.56342	39	0.43658	9.97271	5	54
7	9.53647	35	9.56381	39	0.43619	9.97266	4	53
8	9.53682	34	9.56420	39	0.43580	9.97262	5	52
9	9.53716	35	9.56459	39	0.43541	9.97257	5	51
10	9.53751	34	9.56498	39	0.43502	9.97252	4	50
11	9.53785	34	9.56537	39	0.43463	9.97248	5	49
12	9.53819	35	9.56576	39	0.43424	9.97243	5	48
13	9.53854	34	9.56615	39	0.43385	9.97238	4	47
14	9.53888	34	9.56654	39	0.43346	9.97234	5	46
15	9.53922	35	9.56693	39	0.43307	9.97229	5	45
16	9.53957	34	9.56732	39	0.43268	9.97224	4	44
17	9.53991	34	9.56771	39	0.43229	9.97220	5	43
18	9.54025	34	9.56810	39	0.43190	9.97215	5	42
19	9.54059	34	9.56849	38	0.43151	9.97210	4	41
20	9.54093	34	9.56887	39	0.43113	9.97206	5	40
21	9.54127	34	9.56926	39	0.43074	9.97201	5	39
22	9.54161	34	9.56965	39	0.43035	9.97196	4	38
23	9.54195	34	9.57004	38	0.42996	9.97192	5	37
24	9.54229	34	9.57042	39	0.42958	9.97187	5	36
25	9.54263	34	9.57081	39	0.42919	9.97182	4	35
26	9.54297	34	9.57120	38	0.42880	9.97178	5	34
27	9.54331	34	9.57158	39	0.42842	9.97173	5	33
28	9.54365	34	9.57197	38	0.42803	9.97168	5	32
29	9.54399	34	9.57235	39	0.42765	9.97163	4	31
30	9.54433		9.57274		0.42726	9.97159		30
	Cos. 69		Cot. 69		Tang. 69	Sin. 69		

′	Sin. 20	D.	Tang. 20	d c	Cot. 20	Cos. 20	D.	′
30	9.54433	33	9.57274	38	0.42726	9.97159	5	30
31	9.54466	34	9.57312	39	0.42688	9.97154	5	29
32	9.54500	34	9.57351	38	0.42649	9.97149	4	28
33	9.54534	33	9.57389	39	0.42611	9.97145	5	27
34	9.54567	34	9.57428	38	0.42572	9.97140	5	26
35	9.54601	34	9.57466	38	0.42534	9.97135	5	25
36	9.54635	33	9.57504	39	0.42496	9.97130	4	24
37	9.54668	34	9.57543	38	0.42457	9.97126	5	23
38	9.54702	33	9.57581	38	0.42419	9.97121	5	22
39	9.54735	34	9.57619	39	0.42381	9.97116	5	21
40	9.54769	33	9.57658	38	0.42342	9.97111	4	20
41	9.54802	34	9.57696	38	0.42304	9.97107	5	19
42	9.54836	33	9.57734	38	0.42266	9.97102	5	18
43	9.54869	34	9.57772	38	0.42228	9.97097	5	17
44	9.54903	33	9.57810	39	0.42190	9.97092	5	16
45	9.54936	33	9.57849	38	0.42151	9.97087	4	15
46	9.54969	34	9.57887	38	0.42113	9.97083	5	14
47	9.55003	33	9.57925	38	0.42075	9.97078	5	13
48	9.55036	33	9.57963	38	0.42037	9.97073	5	12
49	9.55069	33	9.58001	38	0.41999	9.97068	5	11
50	9.55102	34	9.58039	38	0.41961	9.97063	4	10
51	9.55136	33	9.58077	38	0.41923	9.97059	5	9
52	9.55169	33	9.58115	38	0.41885	9.97054	5	8
53	9.55202	33	9.58153	38	0.41847	9.97049	5	7
54	9.55235	33	9.58191	38	0.41809	9.97044	5	6
55	9.55268	33	9.58229	38	0.41771	9.97039	4	5
56	9.55301	33	9.58267	37	0.41733	9.97035	5	4
57	9.55334	33	9.58304	38	0.41696	9.97030	5	3
58	9.55367	33	9.58342	38	0.41658	9.97025	5	2
59	9.55400	33	9.58380	38	0.41620	9.97020	5	1
60	9.55433		9.58418		0.41582	9.97015		0
	Cos. 69		Cot. 69		Tang. 69	Sin. 69		

′	Sin. 21	D.	Tang. 21	d c	Cot. 21	Cos. 21	D.	′
0	9.55433		9.58418		0.41582	9.97015		60
1	9.55466	33	9.58455	37	0.41545	9.97010	5	59
2	9.55499	33	9.58493	38	0.41507	9.97005	5	58
3	9.55532	33	9.58531	38	0.41469	9.97001	4	57
4	9.55564	32	9.58569	38	0.41431	9.96996	5	56
5	9.55597	33	9.58606	37	0.41394	9.96991	5	55
6	9.55630	33	9.58644	38	0.41356	9.96986	5	54
7	9.55663	33	9.58681	37	0.41319	9.96981	5	53
8	9.55695	32	9.58719	38	0.41281	9.96976	5	52
9	9.55728	33	9.58757	38	0.41243	9.96971	5	51
10	9.55761	33	9.58794	37	0.41206	9.96966	5	50
11	9.55793	32	9.58832	38	0.41168	9.96962	4	49
12	9.55826	33	9.58869	37	0.41131	9.96957	5	48
13	9.55858	32	9.58907	38	0.41093	9.96952	5	47
14	9.55891	33	9.58944	37	0.41056	9.96947	5	46
15	9.55923	32	9.58981	37	0.41019	9.96942	5	45
16	9.55956	33	9.59019	38	0.40981	9.96937	5	44
17	9.55988	32	9.59056	37	0.40944	9.96932	5	43
18	9.56021	33	9.59094	38	0.40906	9.96927	5	42
19	9.56053	32	9.59131	37	0.40869	9.96922	5	41
20	9.56085	32	9.59168	37	0.40832	9.96917	5	40
21	9.56118	33	9.59205	37	0.40795	9.96912	5	39
22	9.56150	32	9.59243	38	0.40757	9.96907	5	38
23	9.56182	32	9.59280	37	0.40720	9.96903	4	37
24	9.56215	33	9.59317	37	0.40683	9.96898	5	36
25	9.56247	32	9.59354	37	0.40646	9.96893	5	35
26	9.56279	32	9.59391	37	0.40609	9.96888	5	34
27	9.56311	32	9.59429	38	0.40571	9.96883	5	33
28	9.56343	32	9.59466	37	0.40534	9.96878	5	32
29	9.56375	32	9.59503	37	0.40497	9.96873	5	31
30	9.56408	33	9.59540	37	0.40460	9.96868	5	30
	Cos. 68		Cot. 68		Tang. 68	Sin. 68		

′	Sin. 21	D.	Tang. 21	d c	Cot. 21	Cos. 21	D.	′
30	9.56408	32	9.59540	37	0.40460	9.96868	5	30
31	9.56440	32	9.59577	37	0.40423	9.96863	5	29
32	9.56472	32	9.59614	37	0.40386	9.96858	5	28
33	9.56504	32	9.59651	37	0.40349	9.96853	5	27
34	9.56536	32	9.59688	37	0.40312	9.96848	5	26
35	9.56568	31	9.59725	37	0.40275	9.96843	5	25
36	9.56599	32	9.59762	37	0.40238	9.96838	5	24
37	9.56631	32	9.59799	36	0.40201	9.96833	5	23
38	9.56663	32	9.59835	37	0.40165	9.96828	5	22
39	9.56695	32	9.59872	37	0.40128	9.96823	5	21
40	9.56727	32	9.59909	37	0.40091	9.96818	5	20
41	9.56759	31	9.59946	37	0.40054	9.96813	5	19
42	9.56790	32	9.59983	36	0.40017	9.96808	5	18
43	9.56822	32	9.60019	37	0.39981	9.96803	5	17
44	9.56854	32	9.60056	37	0.39944	9.96798	5	16
45	9.56886	31	9.60093	37	0.39907	9.96793	5	15
46	9.56917	32	9.60130	36	0.39870	9.96788	5	14
47	9.56949	31	9.60166	37	0.39834	9.96783	5	13
48	9.56980	32	9.60203	37	0.39797	9.96778	6	12
49	9.57012	32	9.60240	36	0.39760	9.96772	5	11
50	9.57044	31	9.60276	37	0.39724	9.96767	5	10
51	9.57075	32	9.60313	36	0.39687	9.96762	5	9
52	9.57107	31	9.60349	37	0.39651	9.96757	5	8
53	9.57138	31	9.60386	36	0.39614	9.96752	5	7
54	9.57169	32	9.60422	37	0.39578	9.96747	5	6
55	9.57201	31	9.60459	36	0.39541	9.96742	5	5
56	9.57232	32	9.60495	37	0.39505	9.96737	5	4
57	9.57264	31	9.60532	36	0.39468	9.96732	5	3
58	9.57295	31	9.60568	37	0.39432	9.96727	5	2
59	9.57326	32	9.60605	36	0.39395	9.96722	5	1
60	9.57358		9.60641		0.39359	9.96717		0
	Cos. 68		Cot. 68		Tang. 68	Sin. 68		

′	Sin. 22	D.	Tang. 22	d c	Cot. 22	Cos. 22	D.	′
0	9.57358	31	9.60641	36	0.39359	9.96717	6	60
1	9.57389	31	9.60677	37	0.39323	9.96711	5	59
2	9.57420	31	9.60714	36	0.39286	9.96706	5	58
3	9.57451	31	9.60750	36	0.39250	9.96701	5	57
4	9.57482	32	9.60786	37	0.39214	9.96696	5	56
5	9.57514	31	9.60823	36	0.39177	9.96691	5	55
6	9.57545	31	9.60859	36	0.39141	9.96686	5	54
7	9.57576	31	9.60895	36	0.39105	9.96681	5	53
8	9.57607	31	9.60931	36	0.39069	9.96676	6	52
9	9.57638	31	9.60967	37	0.39033	9.96670	5	51
10	9.57669	31	9.61004	36	0.38996	9.96665	5	50
11	9.57700	31	9.61040	36	0.38960	9.96660	5	49
12	9.57731	31	9.61076	36	0.38924	9.96655	5	48
13	9.57762	31	9.61112	36	0.38888	9.96650	5	47
14	9.57793	31	9.61148	36	0.38852	9.96645	5	46
15	9.57824	31	9.61184	36	0.38816	9.96640	6	45
16	9.57855	30	9.61220	36	0.38780	9.96634	5	44
17	9.57885	31	9.61256	36	0.38744	9.96629	5	43
18	9.57916	31	9.61292	36	0.38708	9.96624	5	42
19	9.57947	31	9.61328	36	0.38672	9.96619	5	41
20	9.57978	30	9.61364	36	0.38636	9.96614	6	40
21	9.58008	31	9.61400	36	0.38600	9.96608	5	39
22	9.58039	31	9.61436	36	0.38564	9.96603	5	38
23	9.58070	31	9.61472	36	0.38528	9.96598	5	37
24	9.58101	30	9.61508	36	0.38492	9.96593	5	36
25	9.58131	31	9.61544	35	0.38456	9.96588	6	35
26	9.58162	30	9.61579	36	0.38421	9.96582	5	34
27	9.58192	31	9.61615	36	0.38385	9.96577	5	33
28	9.58223	30	9.61651	36	0.38349	9.96572	5	32
29	9.58253	31	9.61687	35	0.38313	9.96567	5	31
30	9.58284		9.61722		0.38278	9.96562		30
	Cos. 67		Cot. 67		Tang. 67	Sin. 67		

′	Sin. 22	D.	Tang. 22	d c	Cot. 22	Cos. 22	D	′
30	9.58284	30	9.61722	36	0.38278	9.96562	6	30
31	9.58314	31	9.61758	36	0.38242	9.96556	5	29
32	9.58345	30	9.61794	36	0.38206	9.96551	5	28
33	9.58375	31	9.61830	35	0.38170	9.96546	5	27
34	9.58406	30	9.61865	36	0.38135	9.96541	6	26
35	9.58436	31	9.61901	35	0.38099	9.96535	5	25
36	9.58467	30	9.61936	36	0.38064	9.96530	5	24
37	9.58497	30	9.61972	36	0.38028	9.96525	5	23
38	9.58527	30	9.62008	35	0.37992	9.96520	6	22
39	9.58557	31	9.62043	36	0.37957	9.96514	5	21
40	9.58588	30	9.62079	35	0.37921	9.96509	5	20
41	9.58618	30	9.62114	36	0.37886	9.96504	6	19
42	9.58648	30	9.62150	35	0.37850	9.96498	5	18
43	9.58678	31	9.62185	36	0.37815	9.96493	5	17
44	9.58709	30	9.62221	35	0.37779	9.96488	5	16
45	9.58739	30	9.62256	36	0.37744	9.96483	6	15
46	9.58769	30	9.62292	35	0.37708	9.96477	5	14
47	9.58799	30	9.62327	35	0.37673	9.96472	5	13
48	9.58829	30	9.62362	36	0.37638	9.96467	6	12
49	9.58859	30	9.62398	35	0.37602	9.96461	5	11
50	9.58889	30	9.62433	35	0.37567	9.96456	5	10
51	9.58919	30	9.62468	36	0.37532	9.96451	6	9
52	9.58949	30	9.62504	35	0.37496	9.96445	5	8
53	9.58979	30	9.62539	35	0.37461	9.96440	5	7
54	9.59009	30	9.62574	35	0.37426	9.96435	6	6
55	9.59039	30	9.62609	36	0.37391	9.96429	5	5
56	9.59069	29	9.62645	35	0.37355	9.96424	5	4
57	9.59098	30	9.62680	35	0.37320	9.96419	6	3
58	9.59128	30	9.62715	35	0.37285	9.96413	5	2
59	9.59158	30	9.62750	35	0.37250	9.96408	5	1
60	9.59188		9.62785		0.37215	9.96403		0
	Cos. 67		Cot. 67		Tang. 67	Sin. 67		

′	Sin. 23	D.	Tang. 23	d c	Cot. 23	Cos. 23	D.	′
0	9.59188	30	9.62785	35	0.37215	9.96403	6	60
1	9.59218	29	9.62820	35	0.37180	9.96397	5	59
2	9.59247	30	9.62855	35	0.37145	9.96392	5	58
3	9.59277	30	9.62890	36	0.37110	9.96387	6	57
4	9.59307	29	9.62926	35	0.37074	9.96381	5	56
5	9.59336	30	9.62961	35	0.37039	9.96376	6	55
6	9.59366	30	9.62996	35	0.37004	9.96370	5	54
7	9.59396	29	9.63031	35	0.36969	9.96365	5	53
8	9.59425	30	9.63066	35	0.36934	9.96360	6	52
9	9.59455	29	9.63101	34	0.36899	9.96354	5	51
10	9.59484	30	9.63135	35	0.36865	9.96349	6	50
11	9.59514	29	9.63170	35	0.36830	9.96343	5	49
12	9.59543	30	9.63205	35	0.36795	9.96338	5	48
13	9.59573	29	9.63240	35	0.36760	9.96333	6	47
14	9.59602	30	9.63275	35	0.36725	9.96327	5	46
15	9.59632	29	9.63310	35	0.36690	9.96322	6	45
16	9.59661	29	9.63345	34	0.36655	9.96316	5	44
17	9.59690	30	9.63379	35	0.36621	9.96311	6	43
18	9.59720	29	9.63414	35	0.36586	9.96305	5	42
19	9.59749	29	9.63449	35	0.36551	9.96300	6	41
20	9.59778	30	9.63484	35	0.36516	9.96294	5	40
21	9.59808	29	9.63519	34	0.36481	9.96289	5	39
22	9.59837	29	9.63553	35	0.36447	9.96284	6	38
23	9.59866	29	9.63588	35	0.36412	9.96278	5	37
24	9.59895	29	9.63623	34	0.36377	9.96273	6	36
25	9.59924	30	9.63657	35	0.36343	9.96267	5	35
26	9.59954	29	9.63692	34	0.36308	9.96262	6	34
27	9.59983	29	9.63726	35	0.36274	9.96256	5	33
28	9.60012	29	9.63761	35	0.36239	9.96251	6	32
29	9.60041	29	9.63796	34	0.36204	9.96245	5	31
30	9.60070		9.63830		0.36170	9.96240		30
	Cos. 66		Cot. 66		Tang. 66	Sin. 66		

′	Sin. 23	D.	Tang. 23	d c	Cot. 23	Cos. 23	D.	′
30	9.60070	29	9.63830	35	0.36170	9.96240	6	30
31	9.60099	29	9.63865	34	0.36135	9.96234	5	29
32	9.60128	29	9.63899	35	0.36101	9.96229	6	28
33	9.60157	29	9.63934	34	0.36066	9.96223	5	27
34	9.60186	29	9.63968	35	0.36032	9.96218	6	26
35	9.60215	29	9.64003	34	0.35997	9.96212	5	25
36	9.60244	29	9.64037	35	0.35963	9.96207	6	24
37	9.60273	29	9.64072	34	0.35928	9.96201	5	23
38	9.60302	29	9.64106	34	0.35894	9.96196	6	22
39	9.60331	28	9.64140	35	0.35860	9.96190	5	21
40	9.60359	29	9.64175	34	0.35825	9.96185	6	20
41	9.60388	29	9.64209	34	0.35791	9.96179	5	19
42	9.60417	29	9.64243	35	0.35757	9.96174	6	18
43	9.60446	28	9.64278	34	0.35722	9.96168	6	17
44	9.60474	29	9.64312	34	0.35688	9.96162	5	16
45	9.60503	29	9.64346	35	0.35654	9.96157	6	15
46	9.60532	29	9.64381	34	0.35619	9.96151	5	14
47	9.60561	28	9.64415	34	0.35585	9.96146	6	13
48	9.60589	29	9.64449	34	0.35551	9.96140	5	12
49	9.60618	28	9.64483	34	0.35517	9.96135	6	11
50	9.60646	29	9.64517	35	0.35483	9.96129	6	10
51	9.60675	29	9.64552	34	0.35448	9.96123	5	9
52	9.60704	28	9.64586	34	0.35414	9.96118	6	8
53	9.60732	29	9.64620	34	0.35380	9.96112	5	7
54	9.60761	28	9.64654	34	0.35346	9.96107	6	6
55	9.60789	29	9.64688	34	0.35312	9.96101	6	5
56	9.60818	28	9.64722	34	0.35278	9.96095	5	4
57	9.60846	29	9.64756	34	0.35244	9.96090	6	3
58	9.60875	28	9.64790	34	0.35210	9.96084	5	2
59	9.60903	28	9.64824	34	0.35176	9.96079	6	1
60	9.60931		9.64858		0.35142	9.96073		0
	Cos. 66		Cot. 66		Tang. 66	Sin. 66		

′	Sin. 24	D	Tang. 24	d c	Cot. 24	Cos. 24	D.	′
0	9.60931	29	9.64858	34	0.35142	9.96073	6	60
1	9.60960	28	9.64892	34	0.35108	9.96067	5	59
2	9.60988	28	9.64926	34	0.35074	9.96062	6	58
3	9.61016	29	9.64960	34	0.35040	9.96056	6	57
4	9.61045	28	9.64994	34	0.35006	9.96050	5	56
5	9.61073	28	9.65028	34	0.34972	9.96045	6	55
6	9.61101	28	9.65062	34	0.34938	9.96039	5	54
7	9.61129	29	9.65096	34	0.34904	9.96034	6	53
8	9.61158	28	9.65130	34	0.34870	9.96028	6	52
9	9.61186	28	9.65164	33	0.34836	9.96022	5	51
10	9.61214	28	9.65197	34	0.34803	9.96017	6	50
11	9.61242	28	9.65231	34	0.34769	9.96011	6	49
12	9.61270	28	9.65265	34	0.34735	9.96005	5	48
13	9.61298	28	9.65299	34	0.34701	9.96000	6	47
14	9.61326	28	9.65333	33	0.34667	9.95994	6	46
15	9.61354	28	9.65366	34	0.34634	9.95988	6	45
16	9.61382	29	9.65400	34	0.34600	9.95982	5	44
17	9.61411	27	9.65434	33	0.34566	9.95977	6	43
18	9.61438	28	9.65467	34	0.34533	9.95971	6	42
19	9.61466	28	9.65501	34	0.34499	9.95965	5	41
20	9.61494	28	9.65535	33	0.34465	9.95960	6	40
21	9.61522	28	9.65568	34	0.34432	9.95954	6	39
22	9.61550	28	9.65602	34	0.34398	9.95948	6	38
23	9.61578	28	9.65636	33	0.34364	9.95942	5	37
24	9.61606	28	9.65669	34	0.34331	9.95937	6	36
25	9.61634	28	9.65703	33	0.34297	9.95931	6	35
26	9.61662	27	9.65736	34	0.34264	9.95925	5	34
27	9.61689	28	9.65770	33	0.34230	9.95920	6	33
28	9.61717	28	9.65803	34	0.34197	9.95914	6	32
29	9.61745	28	9.65837	33	0.34163	9.95908	6	31
30	9.61773		9.65870		0.34130	9.95902		30
	Cos. 65		Cot. 65		Tang. 65	Sin. 65		

′	Sin. 24	D.	Tang. 24	d c	Cot. 24	Cos. 24	D	′
30	9.61773	27	9.65870	34	0.34130	9.95902	5	30
31	9.61800	28	9.65904	33	0.34096	9.95897	6	29
32	9.61828	28	9.65937	34	0.34063	9.95891	6	28
33	9.61856	27	9.65971	33	0.34029	9.95885	6	27
34	9.61883	28	9.66004	34	0.33996	9.95879	6	26
35	9.61911	28	9.66038	33	0.33962	9.95873	5	25
36	9.61939	27	9.66071	33	0.33929	9.95868	6	24
37	9.61966	28	9.66104	34	0.33896	9.95862	6	23
38	9.61994	27	9.66138	33	0.33862	9.95856	6	22
39	9.62021	28	9.66171	33	0.33829	9.95850	6	21
40	9.62049	27	9.66204	34	0.33796	9.95844	5	20
41	9.62076	28	9.66238	33	0.33762	9.95839	6	19
42	9.62104	27	9.66271	33	0.33729	9.95833	6	18
43	9.62131	28	9.66304	33	0.33696	9.95827	6	17
44	9.62159	27	9.66337	34	0.33663	9.95821	6	16
45	9.62186	28	9.66371	33	0.33629	9.95815	5	15
46	9.62214	27	9.66404	33	0.33596	9.95810	6	14
47	9.62241	27	9.66437	33	0.33563	9.95804	6	13
48	9.62268	28	9.66470	33	0.33530	9.95798	6	12
49	9.62296	27	9.66503	34	0.33497	9.95792	6	11
50	9.62323	27	9.66537	33	0.33463	9.95786	6	10
51	9.62350	27	9.66570	33	0.33430	9.95780	5	9
52	9.62377	28	9.66603	33	0.33397	9.95775	6	8
53	9.62405	27	9.66636	33	0.33364	9.95769	6	7
54	9.62432	27	9.66669	33	0.33331	9.95763	6	6
55	9.62459	27	9.66702	33	0.33298	9.95757	6	5
56	9.62486	27	9.66735	33	0.33265	9.95751	6	4
57	9.62513	28	9.66768	33	0.33232	9.95745	6	3
58	9.62541	27	9.66801	33	0.33199	9.95739	6	2
59	9.62568	27	9.66834	33	0.33166	9.95733	5	1
60	9.62595		9.66867		0.33133	9.95728		0
	Cos. 65		Cot. 65		Tang. 65	Sin. 65		

′	Sin. 25	D.	Tang. 25	d c	Cot. 25	Cos. 25	D.	′
0	9.62595	27	9.66867	33	0.33133	9.95728	6	60
1	9.62622	27	9.66900	33	0.33100	9.95722	6	59
2	9.62649	27	9.66933	33	0.33067	9.95716	6	58
3	9.62676	27	9.66966	33	0.33034	9.95710	6	57
4	9.62703	27	9.66999	33	0.33001	9.95704	6	56
5	9.62730	27	9.67032	33	0.32968	9.95698	6	55
6	9.62757	27	9.67065	33	0.32935	9.95692	6	54
7	9.62784	27	9.67098	33	0.32902	9.95686	6	53
8	9.62811	27	9.67131	32	0.32869	9.95680	6	52
9	9.62838	27	9.67163	33	0.32837	9.95674	6	51
10	9.62865	27	9.67196	33	0.32804	9.95668	5	50
11	9.62892	26	9.67229	33	0.32771	9.95663	6	49
12	9.62918	27	9.67262	33	0.32738	9.95657	6	48
13	9.62945	27	9.67295	32	0.32705	9.95651	6	47
14	9.62972	27	9.67327	33	0.32673	9.95645	6	46
15	9.62999	27	9.67360	33	0.32640	9.95639	6	45
16	9.63026	26	9.67393	33	0.32607	9.95633	6	44
17	9.63052	27	9.67426	32	0.32574	9.95627	6	43
18	9.63079	27	9.67458	33	0.32542	9.95621	6	42
19	9.63106	27	9.67491	33	0.32509	9.95615	6	41
20	9.63133	26	9.67524	32	0.32476	9.95609	6	40
21	9.63159	27	9.67556	33	0.32444	9.95603	6	39
22	9.63186	27	9.67589	33	0.32411	9.95597	6	38
23	9.63213	26	9.67622	32	0.32378	9.95591	6	37
24	9.63239	27	9.67654	33	0.32346	9.95585	6	36
25	9.63266	26	9.67687	32	0.32313	9.95579	6	35
26	9.63292	27	9.67719	33	0.32281	9.95573	6	34
27	9.63319	26	9.67752	33	0.32248	9.95567	6	33
28	9.63345	27	9.67785	32	0.32215	9.95561	6	32
29	9.63372	26	9.67817	33	0.32183	9.95555	6	31
30	9.63398		9.67850		0.32150	9.95549		30
	Cos. 64		Cot. 64		Tang. 64	Sin. 64		

′	Sin. 25	D	Tang. 25	d c	Cot. 25	Cos. 25	D.	′
30	9.63398	27	9.67850	32	0.32150	9.95549	6	30
31	9.63425	26	9.67882	33	0.32118	9.95543	6	29
32	9.63451	27	9.67915	32	0.32085	9.95537	6	28
33	9.63478	26	9.67947	33	0.32053	9.95531	6	27
34	9.63504	27	9.67980	32	0.32020	9.95525	6	26
35	9.63531	26	9.68012	32	0.31988	9.95519	6	25
36	9.63557	26	9.68044	33	0.31956	9.95513	6	24
37	9.63583	27	9.68077	32	0.31923	9.95507	7	23
38	9.63610	26	9.68109	33	0.31891	9.95500	6	22
39	9.63636	26	9.68142	32	0.31858	9.95494	6	21
40	9.63662	27	9.68174	32	0.31826	9.95488	6	20
41	9.63689	26	9.68206	33	0.31794	9.95482	6	19
42	9.63715	26	9.68239	32	0.31761	9.95476	6	18
43	9.63741	26	9.68271	32	0.31729	9.95470	6	17
44	9.63767	27	9.68303	33	0.31697	9.95464	6	16
45	9.63794	26	9.68336	32	0.31664	9.95458	6	15
46	9.63820	26	9.68368	32	0.31632	9.95452	6	14
47	9.63846	26	9.68400	32	0.31600	9.95446	6	13
48	9.63872	26	9.68432	33	0.31568	9.95440	6	12
49	9.63898	26	9.68465	32	0.31535	9.95434	7	11
50	9.63924	26	9.68497	32	0.31503	9.95427	6	10
51	9.63950	26	9.68529	32	0.31471	9.95421	6	9
52	9.63976	26	9.68561	32	0.31439	9.95415	6	8
53	9.64002	26	9.68593	33	0.31407	9.95409	6	7
54	9.64028	26	9.68626	32	0.31374	9.95403	6	6
55	9.64054	26	9.68658	32	0.31342	9.95397	6	5
56	9.64080	26	9.68690	32	0.31310	9.95391	7	4
57	9.64106	26	9.68722	32	0.31278	9.95384	6	3
58	9.64132	26	9.68754	32	0.31246	9.95378	6	2
59	9.64158	26	9.68786	32	0.31214	9.95372	6	1
60	9.64184		9.68818		0.31182	9.95366		0
	Cos. 64		Cot. 64		Tang. 64	Sin. 64		

′	Sin. 26	D.	Tang. 26	d c	Cot. 26	Cos. 26	D.	′
0	9.64184	26	9.68818	32	0.31182	9.95366	6	60
1	9.64210	26	9.68850	32	0.31150	9.95360	6	59
2	9.64236	26	9.68882	32	0.31118	9.95354	6	58
3	9.64262	26	9.68914	32	0.31086	9.95348	7	57
4	9.64288	25	9.68946	32	0.31054	9.95341	6	56
5	9.64313	26	9.68978	32	0.31022	9.95335	6	55
6	9.64339	26	9.69010	32	0.30990	9.95329	6	54
7	9.64365	26	9.69042	32	0.30958	9.95323	6	53
8	9.64391	26	9.69074	32	0.30926	9.95317	7	52
9	9.64417	25	9.69106	32	0.30894	9.95310	6	51
10	9.64442	26	9.69138	32	0.30862	9.95304	6	50
11	9.64468	26	9.69170	32	0.30830	9.95298	6	49
12	9.64494	25	9.69202	32	0.30798	9.95292	6	48
13	9.64519	26	9.69234	32	0.30766	9.95286	7	47
14	9.64545	26	9.69266	32	0.30734	9.95279	6	46
15	9.64571	25	9.69298	31	0.30702	9.95273	6	45
16	9.64596	26	9.69329	32	0.30671	9.95267	6	44
17	9.64622	25	9.69361	32	0.30639	9.95261	7	43
18	9.64647	26	9.69393	32	0.30607	9.95254	6	42
19	9.64673	25	9.69425	32	0.30575	9.95248	6	41
20	9.64698	26	9.69457	31	0.30543	9.95242	6	40
21	9.64724	25	9.69488	32	0.30512	9.95236	7	39
22	9.64749	26	9.69520	32	0.30480	9.95229	6	38
23	9.64775	25	9.69552	32	0.30448	9.95223	6	37
24	9.64800	26	9.69584	31	0.30416	9.95217	6	36
25	9.64826	25	9.69615	32	0.30385	9.95211	7	35
26	9.64851	26	9.69647	32	0.30353	9.95204	6	34
27	9.64877	25	9.69679	31	0.30321	9.95198	6	33
28	9.64902	25	9.69710	32	0.30290	9.95192	7	32
29	9.64927	26	9.69742	32	0.30258	9.95185	6	31
30	9.64953		9.69774		0.30226	9.95179		30
	Cos. 63		Cot. 63		Tang. 63	Sin. 63		

′	Sin. 26	D.	Tang. 26	d c	Cot. 26	Cos. 26	D.	′
30	9.64953		9.69774		0.30226	9.95179		30
31	9.64978	25	9.69805	31	0.30195	9.95173	6	29
32	9.65003	25	9.69837	32	0.30163	9.95167	6	28
33	9.65029	26	9.69868	31	0.30132	9.95160	7	27
34	9.65054	25	9.69900	32	0.30100	9.95154	6	26
35	9.65079	25	9.69932	32	0.30068	9.95148	6	25
36	9.65104	25	9.69963	31	0.30037	9.95141	7	24
37	9.65130	26	9.69995	32	0.30005	9.95135	6	23
38	9.65155	25	9.70026	31	0.29974	9.95129	6	22
39	9.65180	25	9.70058	32	0.29942	9.95122	7	21
40	9.65205	25	9.70089	31	0.29911	9.95116	6	20
41	9.65230	25	9.70121	32	0.29879	9.95110	6	19
42	9.65255	25	9.70152	31	0.29848	9.95103	7	18
43	9.65281	26	9.70184	32	0.29816	9.95097	6	17
44	9.65306	25	9.70215	31	0.29785	9.95090	7	16
45	9.65331	25	9.70247	32	0.29753	9.95084	6	15
46	9.65356	25	9.70278	31	0.29722	9.95078	6	14
47	9.65381	25	9.70309	31	0.29691	9.95071	7	13
48	9.65406	25	9.70341	32	0.29659	9.95065	6	12
49	9.65431	25	9.70372	31	0.29628	9.95059	6	11
50	9.65456	25	9.70404	32	0.29596	9.95052	7	10
51	9.65481	25	9.70435	31	0.29565	9.95046	6	9
52	9.65506	25	9.70466	31	0.29534	9.95039	7	8
53	9.65531	25	9.70498	32	0.29502	9.95033	6	7
54	9.65556	25	9.70529	31	0.29471	9.95027	6	6
55	9.65580	24	9.70560	31	0.29440	9.95020	7	5
56	9.65605	25	9.70592	32	0.29408	9.95014	6	4
57	9.65630	25	9.70623	31	0.29377	9.95007	7	3
58	9.65655	25	9.70654	31	0.29346	9.95001	6	2
59	9.65680	25	9.70685	31	0.29315	9.94995	6	1
60	9.65705	25	9.70717	32	0.29283	9.94988	7	0
	Cos. 63		Cot. 63		Tang. 63	Sin. 63		

′	Sin. 27	D.	Tang. 27	d c	Cot. 27	Cos. 27	D.	′
0	9.65705	24	9.70717	31	0.29283	9.94988	6	60
1	9.65729	25	9.70748	31	0.29252	9.94982	7	59
2	9.65754	25	9.70779	31	0.29221	9.94975	6	58
3	9.65779	25	9.70810	31	0.29190	9.94969	7	57
4	9.65804	24	9.70841	32	0.29159	9.94962	6	56
5	9.65828	25	9.70873	31	0.29127	9.94956	7	55
6	9.65853	25	9.70904	31	0.29096	9.94949	6	54
7	9.65878	24	9.70935	31	0.29065	9.94943	7	53
8	9.65902	25	9.70966	31	0.29034	9.94936	6	52
9	9.65927	25	9.70997	31	0.29003	9.94930	7	51
10	9.65952	24	9.71028	31	0.28972	9.94923	6	50
11	9.65976	25	9.71059	31	0.28941	9.94917	6	49
12	9.66001	24	9.71090	31	0.28910	9.94911	7	48
13	9.66025	25	9.71121	32	0.28879	9.94904	6	47
14	9.66050	25	9.71153	31	0.28847	9.94898	7	46
15	9.66075	24	9.71184	31	0.28816	9.94891	6	45
16	9.66099	25	9.71215	31	0.28785	9.94885	7	44
17	9.66124	24	9.71246	31	0.28754	9.94878	7	43
18	9.66148	25	9.71277	31	0.28723	9.94871	6	42
19	9.66173	24	9.71308	31	0.28692	9.94865	7	41
20	9.66197	24	9.71339	31	0.28661	9.94858	6	40
21	9.66221	25	9.71370	31	0.28630	9.94852	7	39
22	9.66246	24	9.71401	30	0.28599	9.94845	6	38
23	9.66270	25	9.71431	31	0.28569	9.94839	7	37
24	9.66295	24	9.71462	31	0.28538	9.94832	6	36
25	9.66319	24	9.71493	31	0.28507	9.94826	7	35
26	9.66343	25	9.71524	31	0.28476	9.94819	6	34
27	9.66368	24	9.71555	31	0.28445	9.94813	7	33
28	9.66392	24	9.71586	31	0.28414	9.94806	7	32
29	9.66416	25	9.71617	31	0.28383	9.94799	6	31
30	9.66441		9.71648		0.28352	9.94793		30
	Cos. 62		Cot. 62		Tang. 62	Sin. 62		

′	Sin. 27	D.	Tang. 27	d c	Cot. 27	Cos. 27	D.	′
30	9.66441	24	9.71648	31	0.28352	9.94793	7	30
31	9.66465	24	9.71679	30	0.28321	9.94786	6	29
32	9.66489	24	9.71709	31	0.28291	9.94780	7	28
33	9.66513	24	9.71740	31	0.28260	9.94773	6	27
34	9.66537	25	9.71771	31	0.28229	9.94767	7	26
35	9.66562	24	9.71802	31	0.28198	9.94760	7	25
36	9.66586	24	9.71833	30	0.28167	9.94753	6	24
37	9.66610	24	9.71863	31	0.28137	9.94747	7	23
38	9.66634	24	9.71894	31	0.28106	9.94740	6	22
39	9.66658	24	9.71925	30	0.28075	9.94734	7	21
40	9.66682	24	9.71955	31	0.28045	9.94727	7	20
41	9.66706	25	9.71986	31	0.28014	9.94720	6	19
42	9.66731	24	9.72017	31	0.27983	9.94714	7	18
43	9.66755	24	9.72048	30	0.27952	9.94707	7	17
44	9.66779	24	9.72078	31	0.27922	9.94700	6	16
45	9.66803	24	9.72109	31	0.27891	9.94694	7	15
46	9.66827	24	9.72140	30	0.27860	9.94687	7	14
47	9.66851	24	9.72170	31	0.27830	9.94680	6	13
48	9.66875	24	9.72201	30	0.27799	9.94674	7	12
49	9.66899	23	9.72231	31	0.27769	9.94667	7	11
50	9.66922	24	9.72262	31	0.27738	9.94660	6	10
51	9.66946	24	9.72293	30	0.27707	9.94654	7	9
52	9.66970	24	9.72323	31	0.27677	9.94647	7	8
53	9.66994	24	9.72354	30	0.27646	9.94640	6	7
54	9.67018	24	9.72384	31	0.27616	9.94634	7	6
55	9.67042	24	9.72415	30	0.27585	9.94627	7	5
56	9.67066	24	9.72445	31	0.27555	9.94620	6	4
57	9.67090	23	9.72476	30	0.27524	9.94614	7	3
58	9.67113	24	9.72506	31	0.27494	9.94607	7	2
59	9.67137	24	9.72537	30	0.27463	9.94600	7	1
60	9.67161		9.72567		0.27433	9.94593		0
	Cos. 62		Cot. 62		Tang. 62	Sin. 62		

′	Sin. 28	D.	Tang. 28	d c	Cot. 28	Cos. 28	D.	′
0	9.67161	24	9.72567	31	0.27433	9.94593	6	60
1	9.67185	23	9.72598	30	0.27402	9.94587	7	59
2	9.67208	24	9.72628	31	0.27372	9.94580	7	58
3	9.67232	24	9.72659	30	0.27341	9.94573	6	57
4	9.67256	24	9.72689	31	0.27311	9.94567	7	56
5	9.67280	23	9.72720	30	0.27280	9.94560	7	55
6	9.67303	24	9.72750	30	0.27250	9.94553	7	54
7	9.67327	23	9.72780	31	0.27220	9.94546	6	53
8	9.67350	24	9.72811	30	0.27189	9.94540	7	52
9	9.67374	24	9.72841	31	0.27159	9.94533	7	51
10	9.67398	23	9.72872	30	0.27128	9.94526	7	50
11	9.67421	24	9.72902	30	0.27098	9.94519	6	49
12	9.67445	23	9.72932	31	0.27068	9.94513	7	48
13	9.67468	24	9.72963	30	0.27037	9.94506	7	47
14	9.67492	23	9.72993	30	0.27007	9.94499	7	46
15	9.67515	24	9.73023	31	0.26977	9.94492	7	45
16	9.67539	23	9.73054	30	0.26946	9.94485	6	44
17	9.67562	24	9.73084	30	0.26916	9.94479	7	43
18	9.67586	23	9.73114	30	0.26886	9.94472	7	42
19	9.67609	24	9.73144	31	0.26856	9.94465	7	41
20	9.67633	23	9.73175	30	0.26825	9.94458	7	40
21	9.67656	24	9.73205	30	0.26795	9.94451	6	39
22	9.67680	23	9.73235	30	0.26765	9.94445	7	38
23	9.67703	23	9.73265	30	0.26735	9.94438	7	37
24	9.67726	24	9.73295	31	0.26705	9.94431	7	36
25	9.67750	23	9.73326	30	0.26674	9.94424	7	35
26	9.67773	23	9.73356	30	0.26644	9.94417	7	34
27	9.67796	24	9.73386	30	0.26614	9.94410	6	33
28	9.67820	23	9.73416	30	0.26584	9.94404	7	32
29	9.67843	23	9.73446	30	0.26554	9.94397	7	31
30	9.67866		9.73476		0.26524	9.94390		30
	Cos. 61		Cot. 61		Tang. 61	Sin. 61		′

′	Sin. 28	D.	Tang. 28	d c	Cot. 28	Cos. 28	D.	′
30	9.67866	24	9.73476	31	0.26524	9.94390	7	30
31	9.67890	23	9.73507	30	0.26493	9.94383	7	29
32	9.67913	23	9.73537	30	0.26463	9.94376	7	28
33	9.67936	23	9.73567	30	0.26433	9.94369	7	27
34	9.67959	23	9.73597	30	0.26403	9.94362	7	26
35	9.67982	24	9.73627	30	0.26373	9.94355	6	25
36	9.68006	23	9.73657	30	0.26343	9.94349	7	24
37	9.68029	23	9.73687	30	0.26313	9.94342	7	23
38	9.68052	23	9.73717	30	0.26283	9.94335	7	22
39	9.68075	23	9.73747	30	0.26253	9.94328	7	21
40	9.68098	23	9.73777	30	0.26223	9.94321	7	20
41	9.68121	23	9.73807	30	0.26193	9.94314	7	19
42	9.68144	23	9.73837	30	0.26163	9.94307	7	18
43	9.68167	23	9.73867	30	0.26133	9.94300	7	17
44	9.68190	23	9.73897	30	0.26103	9.94293	7	16
45	9.68213	24	9.73927	30	0.26073	9.94286	7	15
46	9.68237	23	9.73957	30	0.26043	9.94279	6	14
47	9.68260	23	9.73987	30	0.26013	9.94273	7	13
48	9.68283	22	9.74017	30	0.25983	9.94266	7	12
49	9.68305	23	9.74047	30	0.25953	9.94259	7	11
50	9.68328	23	9.74077	30	0.25923	9.94252	7	10
51	9.68351	23	9.74107	30	0.25893	9.94245	7	9
52	9.68374	23	9.74137	29	0.25863	9.94238	7	8
53	9.68397	23	9.74166	30	0.25834	9.94231	7	7
54	9.68420	23	9.74196	30	0.25804	9.94224	7	6
55	9.68443	23	9.74226	30	0.25774	9.94217	7	5
56	9.68466	23	9.74256	30	0.25744	9.94210	7	4
57	9.68489	23	9.74286	30	0.25714	9.94203	7	3
58	9.68512	22	9.74316	29	0.25684	9.94196	7	2
59	9.68534	23	9.74345	30	0.25655	9.94189	7	1
60	9.68557		9.74375		0.25625	9.94182		0
	Cos. 61		Cot. 61		Tang. 61	Sin. 61		

′	Sin. 29	D.	Tang. 29	d c	Cot. 29	Cos. 29	D	′
0	9.68557	23	9.74375	30	0.25625	9.94182	7	60
1	9.68580	23	9.74405	30	0.25595	9.94175	7	59
2	9.68603	22	9.74435	30	0.25565	9.94168	7	58
3	9.68625	23	9.74465	29	0.25535	9.94161	7	57
4	9.68648	23	9.74494	30	0.25506	9.94154	7	56
5	9.68671	23	9.74524	30	0.25476	9.94147	7	55
6	9.68694	22	9.74554	29	0.25446	9.94140	7	54
7	9.68716	23	9.74583	30	0.25417	9.94133	7	53
8	9.68739	23	9.74613	30	0.25387	9.94126	7	52
9	9.68762	22	9.74643	30	0.25357	9.94119	7	51
10	9.68784	23	9.74673	29	0.25327	9.94112	7	50
11	9.68807	22	9.74702	30	0.25298	9.94105	7	49
12	9.68829	23	9.74732	30	0.25268	9.94098	8	48
13	9.68852	23	9.74762	29	0.25238	9.94090	7	47
14	9.68875	22	9.74791	30	0.25209	9.94083	7	46
15	9.68897	23	9.74821	30	0.25179	9.94076	7	45
16	9.68920	22	9.74851	29	0.25149	9.94069	7	44
17	9.68942	23	9.74880	30	0.25120	9.94062	7	43
18	9.68965	22	9.74910	29	0.25090	9.94055	7	42
19	9.68987	23	9.74939	30	0.25061	9.94048	7	41
20	9.69010	22	9.74969	29	0.25031	9.94041	7	40
21	9.69032	23	9.74998	30	0.25002	9.94034	7	39
22	9.69055	22	9.75028	30	0.24972	9.94027	7	38
23	9.69077	23	9.75058	29	0.24942	9.94020	8	37
24	9.69100	22	9.75087	30	0.24913	9.94012	7	36
25	9.69122	22	9.75117	29	0.24883	9.94005	7	35
26	9.69144	23	9.75146	30	0.24854	9.93998	7	34
27	9.69167	22	9.75176	29	0.24824	9.93991	7	33
28	9.69189	23	9.75205	30	0.24795	9.93984	7	32
29	9.69212	22	9.75235	29	0.24765	9.93977	7	31
30	9.69234		9.75264		0.24736	9.93970		30
	Cos. 60		Cot. 60		Tang. 60	Sin. 60		

′	Sin. 29	D.	Tang. 29	d c	Cot. 29	Cos. 29	D.	′
30	9.69234	22	9.75264	30	0.24736	9.93970	7	30
31	9.69256	23	9.75294	29	0.24706	9.93963	8	29
32	9.69279	22	9.75323	30	0.24677	9.93955	7	28
33	9.69301	22	9.75353	29	0.24647	9.93948	7	27
34	9.69323	22	9.75382	29	0.24618	9.93941	7	26
35	9.69345	23	9.75411	30	0.24589	9.93934	7	25
36	9.69368	22	9.75441	29	0.24559	9.93927	7	24
37	9.69390	22	9.75470	30	0.24530	9.93920	8	23
38	9.69412	22	9.75500	29	0.24500	9.93912	7	22
39	9.69434	22	9.75529	29	0.24471	9.93905	7	21
40	9.69456	23	9.75558	30	0.24442	9.93898	7	20
41	9.69479	22	9.75588	29	0.24412	9.93891	7	19
42	9.69501	22	9.75617	30	0.24383	9.93884	8	18
43	9.69523	22	9.75647	29	0.24353	9.93876	7	17
44	9.69545	22	9.75676	29	0.24324	9.93869	7	16
45	9.69567	22	9.75705	30	0.24295	9.93862	7	15
46	9.69589	22	9.75735	29	0.24265	9.93855	8	14
47	9.69611	22	9.75764	29	0.24236	9.93847	7	13
48	9.69633	22	9.75793	29	0.24207	9.93840	7	12
49	9.69655	22	9.75822	30	0.24178	9.93833	7	11
50	9.69677	22	9.75852	29	0.24148	9.93826	7	10
51	9.69699	22	9.75881	29	0.24119	9.93819	8	9
52	9.69721	22	9.75910	29	0.24090	9.93811	7	8
53	9.69743	22	9.75939	30	0.24061	9.93804	7	7
54	9.69765	22	9.75969	29	0.24031	9.93797	8	6
55	9.69787	22	9.75998	29	0.24002	9.93789	7	5
56	9.69809	22	9.76027	29	0.23973	9.93782	7	4
57	9.69831	22	9.76056	30	0.23944	9.93775	7	3
58	9.69853	22	9.76086	29	0.23914	9.93768	8	2
59	9.69875	22	9.76115	29	0.23885	9.93760	7	1
60	9.69897		9.76144		0.23856	9.93753		0
	Cos. 60		Cot. 60		Tang. 60	Sin. 60		

'	Sin. 30	D	Tang. 30	d c	Cot. 30	Cos. 30	D.	'
0	9.69897	22	9.76144	29	0.23856	9.93753	7	60
1	9.69919	22	9.76173	29	0.23827	9.93746	8	59
2	9.69941	22	9.76202	29	0.23798	9.93738	7	58
3	9.69963	21	9.76231	30	0.23769	9.93731	7	57
4	9.69984	22	9.76261	29	0.23739	9.93724	7	56
5	9.70006	22	9.76290	29	0.23710	9.93717	8	55
6	9.70028	22	9.76319	29	0.23681	9.93709	7	54
7	9.70050	22	9.76348	29	0.23652	9.93702	7	53
8	9.70072	21	9.76377	29	0.23623	9.93695	8	52
9	9.70093	22	9.76406	29	0.23594	9.93687	7	51
10	9.70115	22	9.76435	29	0.23565	9.93680	7	50
11	9.70137	22	9.76464	29	0.23536	9.93673	8	49
12	9.70159	21	9.76493	29	0.23507	9.93665	7	48
13	9.70180	22	9.76522	29	0.23478	9.93658	8	47
14	9.70202	22	9.76551	29	0.23449	9.93650	7	46
15	9.70224	21	9.76580	29	0.23420	9.93643	7	45
16	9.70245	22	9.76609	30	0.23391	9.93636	8	44
17	9.70267	21	9.76639	29	0.23361	9.93628	7	43
18	9.70288	22	9.76668	29	0.23332	9.93621	7	42
19	9.70310	22	9.76697	28	0.23303	9.93614	8	41
20	9.70332	21	9.76725	29	0.23275	9.93606	7	40
21	9.70353	22	9.76754	29	0.23246	9.93599	8	39
22	9.70375	21	9.76783	29	0.23217	9.93591	7	38
23	9.70396	22	9.76812	29	0.23188	9.93584	7	37
24	9.70418	21	9.76841	29	0.23159	9.93577	8	36
25	9.70439	22	9.76870	29	0.23130	9.93569	7	35
26	9.70461	21	9.76899	29	0.23101	9.93562	8	34
27	9.70482	22	9.76928	29	0.23072	9.93554	7	33
28	9.70504	21	9.76957	29	0.23043	9.93547	8	32
29	9.70525	22	9.76986	29	0.23014	9.93539	7	31
30	9.70547		9.77015		0.22985	9.93532		30
	Cos. 59		Cot. 59		Tang. 59	Sin. 59		

′	Sin. 30	D.	Tang. 30	d c	Cot. 30	Cos. 30	D.	′
30	9.70547	21	9.77015	29	0.22985	9.93532	7	30
31	9.70568	22	9.77044	29	0.22956	9.93525	8	29
32	9.70590	21	9.77073	28	0.22927	9.93517	7	28
33	9.70611	22	9.77101	29	0.22899	9.93510	8	27
34	9.70633	21	9.77130	29	0.22870	9.93502	7	26
35	9.70654	21	9.77159	29	0.22841	9.93495	8	25
36	9.70675	22	9.77188	29	0.22812	9.93487	7	24
37	9.70697	21	9.77217	29	0.22783	9.93480	8	23
38	9.70718	21	9.77246	28	0.22754	9.93472	7	22
39	9.70739	22	9.77274	29	0.22726	9.93465	8	21
40	9.70761	21	9.77303	29	0.22697	9.93457	7	20
41	9.70782	21	9.77332	29	0.22668	9.93450	8	19
42	9.70803	21	9.77361	29	0.22639	9.93442	7	18
43	9.70824	22	9.77390	28	0.22610	9.93435	8	17
44	9.70846	21	9.77418	29	0.22582	9.93427	7	16
45	9.70867	21	9.77447	29	0.22553	9.93420	8	15
46	9.70888	21	9.77476	29	0.22524	9.93412	7	14
47	9.70909	22	9.77505	28	0.22495	9.93405	8	13
48	9.70931	21	9.77533	29	0.22467	9.93397	7	12
49	9.70952	21	9.77562	29	0.22438	9.93390	8	11
50	9.70973	21	9.77591	28	0.22409	9.93382	7	10
51	9.70994	21	9.77619	29	0.22381	9.93375	8	9
52	9.71015	21	9.77648	29	0.22352	9.93367	7	8
53	9.71036	22	9.77677	29	0.22323	9.93360	8	7
54	9.71058	21	9.77706	28	0.22294	9.93352	8	6
55	9.71079	21	9.77734	29	0.22266	9.93344	7	5
56	9.71100	21	9.77763	28	0.22237	9.93337	8	4
57	9.71121	21	9.77791	29	0.22209	9.93329	7	3
58	9.71142	21	9.77820	29	0.22180	9.93322	8	2
59	9.71163	21	9.77849	28	0.22151	9.93314	7	1
60	9.71184		9.77877		0.22123	9.93307		0
	Cos. 59		Cot. 59		Tang. 59	Sin. 59		

′	Sin. 31	D.	Tang. 31	d c	Cot. 31	Cos. 31	D.	′
0	9.71184	21	9.77877	29	0.22123	9.93307	8	60
1	9.71205	21	9.77906	29	0.22094	9.93299	8	59
2	9.71226	21	9.77935	28	0.22065	9.93291	7	58
3	9.71247	21	9.77963	29	0.22037	9.93284	8	57
4	9.71268	21	9.77992	28	0.22008	9.93276	7	56
5	9.71289	21	9.78020	29	0.21980	9.93269	8	55
6	9.71310	21	9.78049	28	0.21951	9.93261	8	54
7	9.71331	21	9.78077	29	0.21923	9.93253	7	53
8	9.71352	21	9.78106	29	0.21894	9.93246	8	52
9	9.71373	20	9.78135	28	0.21865	9.93238	8	51
10	9.71393	21	9.78163	29	0.21837	9.93230	7	50
11	9.71414	21	9.78192	28	0.21808	9.93223	8	49
12	9.71435	21	9.78220	29	0.21780	9.93215	8	48
13	9.71456	21	9.78249	28	0.21751	9.93207	7	47
14	9.71477	21	9.78277	29	0.21723	9.93200	8	46
15	9.71498	21	9.78306	28	0.21694	9.93192	8	45
16	9.71519	20	9.78334	29	0.21666	9.93184	7	44
17	9.71539	21	9.78363	28	0.21637	9.93177	8	43
18	9.71560	21	9.78391	28	0.21609	9.93169	8	42
19	9.71581	21	9.78419	29	0.21581	9.93161	7	41
20	9.71602	20	9.78448	28	0.21552	9.93154	8	40
21	9.71622	21	9.78476	29	0.21524	9.93146	8	39
22	9.71643	21	9.78505	28	0.21495	9.93138	7	38
23	9.71664	21	9.78533	29	0.21467	9.93131	8	37
24	9.71685	20	9.78562	28	0.21438	9.93123	8	36
25	9.71705	21	9.78590	28	0.21410	9.93115	7	35
26	9.71726	21	9.78618	29	0.21382	9.93108	8	34
27	9.71747	20	9.78647	28	0.21353	9.93100	8	33
28	9.71767	21	9.78675	29	0.21325	9.93092	8	32
29	9.71788	21	9.78704	28	0.21296	9.93084	7	31
30	9.71809		9.78732		0.21268	9.93077		30
	Cos. 58		Cot. 58		Tang. 58	Sin. 58		

′	Sin. 31	D.	Tang. 31	d c	Cot. 31	Cos. 31	D.	′
30	9.71809	20	9.78732	28	0.21268	9.93077	8	30
31	9.71829	21	9.78760	29	0.21240	9.93069	8	29
32	9.71850	20	9.78789	28	0.21211	9.93061	8	28
33	9.71870	21	9.78817	28	0.21183	9.93053	7	27
34	9.71891	20	9.78845	29	0.21155	9.93046	8	26
35	9.71911	21	9.78874	28	0.21126	9.93038	8	25
36	9.71932	20	9.78902	28	0.21098	9.93030	8	24
37	9.71952	21	9.78930	29	0.21070	9.93022	8	23
38	9.71973	21	9.78959	28	0.21041	9.93014	7	22
39	9.71994	20	9.78987	28	0.21013	9.93007	8	21
40	9.72014	20	9.79015	28	0.20985	9.92999	8	20
41	9.72034	21	9.79043	29	0.20957	9.92991	8	19
42	9.72055	20	9.79072	28	0.20928	9.92983	7	18
43	9.72075	21	9.79100	28	0.20900	9.92976	8	17
44	9.72096	20	9.79128	28	0.20872	9.92968	8	16
45	9.72116	21	9.79156	29	0.20844	9.92960	8	15
46	9.72137	20	9.79185	28	0.20815	9.92952	8	14
47	9.72157	20	9.79213	28	0.20787	9.92944	8	13
48	9.72177	21	9.79241	28	0.20759	9.92936	7	12
49	9.72198	20	9.79269	28	0.20731	9.92929	8	11
50	9.72218	20	9 79297	29	0.20703	9.92921	8	10
51	9.72238	21	9.79326	28	0.20674	9.92913	8	9
52	9.72259	20	9.79354	28	0.20646	9.92905	8	8
53	9.72279	20	9.79382	28	0.20618	9.92897	8	7
54	9.72299	21	9.79410	28	0.20590	9.92889	8	6
55	9.72320	20	9.79438	28	0.20562	9.92881	7	5
56	9.72340	20	9.79466	29	0.20534	9.92874	8	4
57	9.72360	21	9.79495	28	0.20505	9.92866	8	3
58	9.72381	20	9.79523	28	0.20477	9.92858	8	2
59	9.72401	20	9.79551	28	0.20449	9.92850	8	1
60	9.72421		9.79579		0.20421	9.92842		0
	Cos. 58		Cot. 58		Tang. 58	Sin. 58		

′	Sin. 32	D.	Tang. 32	d c	Cot. 32	Cos. 32.	D.	′
0	9.72421	20	9.79579	28	0.20421	9.92842	8	60
1	9.72441	20	9.79607	28	0.20393	9.92834	8	59
2	9.72461	21	9.79635	28	0.20365	9.92826	8	58
3	9.72482	20	9.79663	28	0.20337	9.92818	8	57
4	9.72502	20	9.79691	28	0.20309	9.92810	7	56
5	9.72522	20	9.79719	28	0.20281	9.92803	8	55
6	9.72542	20	9.79747	29	0.20253	9.92795	8	54
7	9.72562	20	9.79776	28	0.20224	9.92787	8	53
8	9.72582	20	9.79804	28	0.20196	9.92779	8	52
9	9.72602	20	9.79832	28	0.20168	9.92771	8	51
10	9.72622	21	9.79860	28	0.20140	9.92763	8	50
11	9.72643	20	9.79888	28	0.20112	9.92755	8	49
12	9.72663	20	9.79916	28	0.20084	9.92747	8	48
13	9.72683	20	9.79944	28	0.20056	9.92739	8	47
14	9.72703	20	9.79972	28	0.20028	9.92731	8	46
15	9.72723	20	9.80000	28	0.20000	9.92723	8	45
16	9.72743	20	9.80028	28	0.19972	9.92715	8	44
17	9.72763	20	9.80056	28	0.19944	9.92707	8	43
18	9.72783	20	9.80084	28	0.19916	9.92699	8	42
19	9.72803	20	9.80112	28	0.19888	9.92691	8	41
20	9.72823	20	9.80140	28	0.19860	9.92683	8	40
21	9.72843	20	9.80168	27	0.19832	9.92675	8	39
22	9.72863	20	9.80195	28	0.19805	9.92667	8	38
23	9.72883	19	9.80223	28	0.19777	9.92659	8	37
24	9.72902	20	9.80251	28	0.19749	9.92651	8	36
25	9.72922	20	9.80279	28	0.19721	9.92643	8	35
26	9.72942	20	9.80307	28	0.19693	9.92635	8	34
27	9.72962	20	9.80335	28	0.19665	9.92627	8	33
28	9.72982	20	9.80363	28	0.19637	9.92619	8	32
29	9.73002	20	9.80391	28	0.19609	9.92611	8	31
30	9.73022		9.80419		0.19581	9.92603		30
	Cos. 57		Cot. 57		Tang. 57	Sin. 57		

′	Sin. 32	D.	Tang. 32	d c	Cot. 32	Cos. 32	D.	′
30	9.73022	19	9.80419	28	0.19581	9.92603	8	30
31	9.73041	20	9.80447	27	0.19553	9.92595	8	29
32	9.73061	20	9.80474	28	0.19526	9.92587	8	28
33	9.73081	20	9.80502	28	0.19498	9.92579	8	27
34	9.73101	20	9.80530	28	0.19470	9.92571	8	26
35	9.73121	19	9.80558	28	0.19442	9.92563	8	25
36	9.73140	20	9.80586	28	0.19414	9.92555	9	24
37	9.73160	20	9.80614	28	0.19386	9.92546	8	23
38	9.73180	20	9.80642	27	0.19358	9.92538	8	22
39	9.73200	19	9.80669	28	0.19331	9.92530	8	21
40	9.73219	20	9.80697	28	0.19303	9.92522	8	20
41	9.73239	20	9.80725	28	0.19275	9.92514	8	19
42	9.73259	19	9.80753	28	0.19247	9.92506	8	18
43	9.73278	20	9.80781	27	0.19219	9.92498	8	17
44	9.73298	20	9.80808	28	0.19192	9.92490	8	16
45	9.73318	19	9.80836	28	0.19164	9.92482	9	15
46	9.73337	20	9.80864	28	0.19136	9.92473	8	14
47	9.73357	20	9.80892	27	0.19108	9.92465	8	13
48	9.73377	19	9.80919	28	0.19081	9.92457	8	12
49	9.73396	20	9.80947	28	0.19053	9.92449	8	11
50	9.73416	19	9.80975	28	0.19025	9.92441	8	10
51	9.73435	20	9.81003	27	0.18997	9.92433	8	9
52	9.73455	19	9.81030	28	0.18970	9.92425	9	8
53	9.73474	20	9.81058	28	0.18942	9.92416	8	7
54	9.73494	19	9.81086	27	0.18914	9.92408	8	6
55	9.73513	20	9.81113	28	0.18887	9.92400	8	5
56	9.73533	19	9.81141	28	0.18859	9.92392	8	4
57	9.73552	20	9.81169	27	0.18831	9.92384	8	3
58	9.73572	19	9.81196	28	0.18804	9.92376	9	2
59	9.73591	20	9.81224	28	0.18776	9.92367	8	1
60	9.73611		9.81252		0.18748	9.92359		0
	Cos. 57		Cot. 57		Tang. 57	Sin. 57		

'	Sin. 33	D	Tang. 33	d c	Cot. 33	Cos. 33	D.	'
0	9.73611	19	9.81252	27	0.18748	9.92359	8	60
1	9.73630	20	9.81279	28	0.18721	9.92351	8	59
2	9.73650	19	9.81307	28	0.18693	9.92343	8	58
3	9.73669	20	9.81335	27	0.18665	9.92335	9	57
4	9.73689	19	9.81362	28	0.18638	9.92326	8	56
5	9.73708	19	9.81390	28	0.18610	9.92318	8	55
6	9.73727	20	9.81418	27	0.18582	9.92310	8	54
7	9.73747	19	9.81445	28	0.18555	9.92302	9	53
8	9.73766	19	9.81473	27	0.18527	9.92293	8	52
9	9.73785	20	9.81500	28	0.18500	9.92285	8	51
10	9.73805	19	9.81528	28	0.18472	9.92277	8	50
11	9.73824	19	9.81556	27	0.18444	9.92269	9	49
12	9.73843	20	9.81583	28	0.18417	9.92260	8	48
13	9.73863	19	9.81611	27	0.18389	9.92252	8	47
14	9.73882	19	9.81638	28	0.18362	9.92244	9	46
15	9.73901	20	9.81666	27	0.18334	9.92235	8	45
16	9.73921	19	9.81693	28	0.18307	9.92227	8	44
17	9.73940	19	9.81721	27	0.18279	9.92219	8	43
18	9.73959	19	9.81748	28	0.18252	9.92211	9	42
19	9.73978	19	9.81776	27	0.18224	9.92202	8	41
20	9.73997	20	9.81803	28	0.18197	9.92194	8	40
21	9.74017	19	9.81831	27	0.18169	9.92186	9	39
22	9.74036	19	9.81858	28	0.18142	9.92177	8	38
23	9.74055	19	9.81886	27	0.18114	9.92169	8	37
24	9.74074	19	9.81913	28	0.18087	9.92161	9	36
25	9.74093	20	9.81941	27	0.18059	9.92152	8	35
26	9.74113	19	9.81968	28	0.18032	9.92144	8	34
27	9.74132	19	9.81996	27	0.18004	9.92136	9	33
28	9.74151	19	9.82023	28	0.17977	9.92127	8	32
29	9.74170	19	9.82051	27	0.17949	9.92119	8	31
30	9.74189		9.82078		0.17922	9.92111		30
	Cos. 56		Cot. 56		Tang. 56	Sin. 56		

′	Sin. 33	D.	Tang. 33	d c	Cot. 33	Cos. 33	D.	′
30	9.74189	19	9.82078	28	0.17922	9.92111	9	30
31	9.74208	19	9.82106	27	0.17894	9.92102	8	29
32	9.74227	19	9.82133	28	0.17867	9.92094	8	28
33	9.74246	19	9.82161	27	0.17839	9.92086	9	27
34	9.74265	19	9.82188	27	0.17812	9.92077	8	26
35	9.74284	19	9.82215	28	0.17785	9.92069	9	25
36	9.74303	19	9.82243	27	0.17757	9.92060	8	24
37	9.74322	19	9.82270	28	0.17730	9.92052	8	23
38	9.74341	19	9.82298	27	0.17702	9.92044	9	22
39	9.74360	19	9.82325	27	0.17675	9.92035	8	21
40	9.74379	19	9.82352	28	0.17648	9.92027	9	20
41	9.74398	19	9.82380	27	0.17620	9.92018	8	19
42	9.74417	19	9.82407	28	0.17593	9.92010	8	18
43	9.74436	19	9.82435	27	0.17565	9.92002	9	17
44	9.74455	19	9.82462	27	0.17538	9.91993	8	16
45	9.74474	19	9.82489	28	0.17511	9.91985	9	15
46	9.74493	19	9.82517	27	0.17483	9.91976	8	14
47	9.74512	19	9.82544	27	0.17456	9.91968	9	13
48	9.74531	18	9.82571	28	0.17429	9.91959	8	12
49	9.74549	19	9.82599	27	0.17401	9.91951	9	11
50	9.74568	19	9.82626	27	0.17374	9.91942	8	10
51	9.74587	19	9.82653	28	0.17347	9.91934	9	9
52	9.74606	19	9.82681	27	0.17319	9.91925	8	8
53	9.74625	19	9.82708	27	0.17292	9.91917	9	7
54	9.74644	18	9.82735	27	0.17265	9.91908	8	6
55	9.74662	19	9.82762	28	0.17238	9.91900	9	5
56	9.74681	19	9.82790	27	0.17210	9.91891	8	4
57	9.74700	19	9.82817	27	0.17183	9.91883	9	3
58	9.74719	18	9.82844	27	0.17156	9.91874	8	2
59	9.74737	19	9.82871	28	0.17129	9.91866	9	1
60	9.74756		9.82899		0.17101	9.91857		0
	Cos. 56		Cot. 56		Tang. 56	Sin. 56		

′	Sin. 34	D.	Tang. 34	d c	Cot. 34	Cos. 34	D.	′
0	9.74756	19	9.82899	27	0.17101	9.91857	8	60
1	9.74775	19	9.82926	27	0.17074	9.91849	9	59
2	9.74794	18	9.82953	27	0.17047	9.91840	8	58
3	9.74812	19	9.82980	28	0.17020	9.91832	9	57
4	9.74831	19	9.83008	27	0.16992	9.91823	8	56
5	9.74850	18	9.83035	27	0.16965	9.91815	9	55
6	9.74868	19	9.83062	27	0.16938	9.91806	8	54
7	9.74887	19	9.83089	28	0.16911	9.91798	9	53
8	9.74906	18	9.83117	27	0.16883	9.91789	8	52
9	9.74924	19	9.83144	27	0.16856	9.91781	9	51
10	9.74943	18	9.83171	27	0.16829	9.91772	9	50
11	9.74961	19	9.83198	27	0.16802	9.91763	8	49
12	9.74980	19	9.83225	27	0.16775	9.91755	9	48
13	9.74999	18	9.83252	28	0.16748	9.91746	8	47
14	9.75017	19	9.83280	27	0.16720	9.91738	9	46
15	9.75036	18	9.83307	27	0.16693	9.91729	9	45
16	9.75054	19	9.83334	27	0.16666	9.91720	8	44
17	9.75073	18	9.83361	27	0.16639	9.91712	9	43
18	9.75091	19	9.83388	27	0.16612	9.91703	8	42
19	9.75110	18	9.83415	27	0.16585	9.91695	9	41
20	9.75128	19	9.83442	28	0.16558	9.91686	9	40
21	9.75147	18	9.83470	27	0.16530	9.91677	8	39
22	9.75165	19	9.83497	27	0.16503	9.91669	9	38
23	9.75184	18	9.83524	27	0.16476	9.91660	9	37
24	9.75202	19	9.83551	27	0.16449	9.91651	8	36
25	9.75221	18	9.83578	27	0.16422	9.91643	9	35
26	9.75239	19	9.83605	27	0.16395	9.91634	9	34
27	9.75258	18	9.83632	27	0.16368	9.91625	8	33
28	9.75276	18	9.83659	27	0.16341	9.91617	9	32
29	9.75294	19	9.83686	27	0.16314	9.91608	9	31
30	9.75313		9.83713		0.16287	9.91599		30
	Cos. 55		Cot. 55		Tang. 55	Sin. 55		

′	Sin. 34	D.	Tang. 34	d c	Cot. 34	Cos. 34	D.	′
30	9.75313	18	9.83713	27	0.16287	9.91599	8	30
31	9.75331	19	9.83740	28	0.16260	9.91591	9	29
32	9.75350	18	9.83768	27	0.16232	9.91582	9	28
33	9.75368	18	9.83795	27	0.16205	9.91573	8	27
34	9.75386	19	9.83822	27	0.16178	9.91565	9	26
35	9.75405	18	9.83849	27	0.16151	9.91556	9	25
36	9.75423	18	9.83876	27	0.16124	9.91547	9	24
37	9.75441	18	9.83903	27	0.16097	9.91538	8	23
38	9.75459	19	9.83930	27	0.16070	9.91530	9	22
39	9.75478	18	9.83957	27	0.16043	9.91521	9	21
40	9.75496	18	9.83984	27	0.16016	9.91512	8	20
41	9.75514	19	9.84011	27	0.15989	9.91504	9	19
42	9.75533	18	9.84038	27	0.15962	9.91495	9	18
43	9.75551	18	9.84065	27	0.15935	9.91486	9	17
44	9.75569	18	9.84092	27	0.15908	9.91477	8	16
45	9.75587	18	9.84119	27	0.15881	9.91469	9	15
46	9.75605	19	9.84146	27	0.15854	9.91460	9	14
47	9.75624	18	9.84173	27	0.15827	9.91451	9	13
48	9.75642	18	9.84200	27	0.15800	9.91442	9	12
49	9.75660	18	9.84227	27	0.15773	9.91433	8	11
50	9.75678	18	9.84254	26	0.15746	9.91425	9	10
51	9.75696	18	9.84280	27	0.15720	9.91416	9	9
52	9.75714	19	9.84307	27	0.15693	9.91407	9	8
53	9.75733	18	9.84334	27	0.15666	9.91398	9	7
54	9.75751	18	9.84361	27	0.15639	9.91389	8	6
55	9.75769	18	9.84388	27	0.15612	9.91381	9	5
56	9.75787	18	9.84415	27	0.15585	9.91372	9	4
57	9.75805	18	9.84442	27	0.15558	9.91363	9	3
58	9.75823	18	9.84469	27	0.15531	9.91354	9	2
59	9.75841	18	9.84496	27	0.15504	9.91345	9	1
60	9.75859		9.84523		0.15477	9.91336		0
	Cos. 55		Cot. 55		Tang. 55	Sin. 55		

′	Sin. 35	D.	Tang. 35	d c	Cot. 35	Cos. 35	D.	′
0	9.75859	18	9.84523	27	0.15477	9.91336	8	60
1	9.75877	18	9.84550	26	0.15450	9.91328	9	59
2	9.75895	18	9.84576	27	0.15424	9.91319	9	58
3	9.75913	18	9.84603	27	0.15397	9.91310	9	57
4	9.75931	18	9.84630	27	0.15370	9.91301	9	56
5	9.75949	18	9.84657	27	0.15343	9.91292	9	55
6	9.75967	18	9.84684	27	0.15316	9.91283	9	54
7	9.75985	18	9.84711	27	0.15289	9 91274	8	53
8	9.76003	18	9.84738	26	0.15262	9.91266	9	52
9	9.76021	18	9.84764	27	0.15236	9.91257	9	51
10	9.76039	18	9.84791	27	0.15209	9.91248	9	50
11	9.76057	18	9.84818	27	0.15182	9.91239	9	49
12	9.76075	18	9.84845	27	0.15155	9.91230	9	48
13	9.76093	18	9.84872	27	0.15128	9.91221	9	47
14	9.76111	18	9.84899	26	0.15101	9.91212	9	46
15	9.76129	17	9.84925	27	0.15075	9.91203	9	45
16	9.76146	18	9.84952	27	0.15048	9.91194	9	44
17	9.76164	18	9.84979	27	0.15021	9.91185	9	43
18	9.76182	18	9.85006	27	0.14994	9.91176	9	42
19	9.76200	18	9.85033	26	0.14967	9.91167	9	41
20	9.76218	18	9.85059	27	0.14941	9.91158	9	40
21	9.76236	17	9.85086	27	0.14914	9.91149	8	39
22	9.76253	18	9.85113	27	0.14887	9.91141	9	38
23	9.76271	18	9.85140	26	0.14860	9.91132	9	37
24	9.76289	18	9.85166	27	0.14834	9.91123	9	36
25	9.76307	17	9.85193	27	0.14807	9.91114	9	35
26	9.76324	18	9.85220	27	0.14780	9.91105	9	34
27	9.76342	18	9.85247	26	0.14753	9.91096	9	33
28	9.76360	18	9.85273	27	0.14727	9.91087	9	32
29	9.76378	17	9.85300	27	0.14700	9.91078	9	31
30	9.76395		9.85327		0.14673	9.91069		30
	Cos. 54		Cot. 54		Tang. 54	Sin. 54		

′	Sin. 35	D.	Tang. 35	d c	Cot. 35	Cos. 35	D.	′
30	9.76395	18	9.85327	27	0.14673	9.91069	9	30
31	9.76413	18	9.85354	26	0.14646	9.91060	9	29
32	9.76431	17	9.85380	27	0.14620	9.91051	9	28
33	9.76448	18	9.85407	27	0.14593	9.91042	9	27
34	9.76466	18	9.85434	26	0.14566	9.91033	10	26
35	9.76484	17	9.85460	27	0.14540	9.91023	9	25
36	9.76501	18	9.85487	27	0.14513	9.91014	9	24
37	9.76519	18	9.85514	26	0.14486	9.91005	9	23
38	9.76537	17	9.85540	27	0.14460	9.90996	9	22
39	9.76554	18	9.85567	27	0.14433	9.90987	9	21
40	9.76572	18	9.85594	26	0.14406	9.90978	9	20
41	9.76590	17	9.85620	27	0.14380	9.90969	9	19
42	9.76607	18	9.85647	27	0.14353	9.90960	9	18
43	9.76625	17	9.85674	26	0.14326	9.90951	9	17
44	9.76642	18	9.85700	27	0.14300	9.90942	9	16
45	9.76660	17	9.85727	27	0.14273	9.90933	9	15
46	9.76677	18	9.85754	26	0.14246	9.90924	9	14
47	9.76695	17	9.85780	27	0.14220	9.90915	9	13
48	9.76712	18	9.85807	27	0.14193	9.90906	10	12
49	9.76730	17	9.85834	26	0.14166	9.90896	9	11
50	9.76747	18	9.85860	27	0.14140	9.90887	9	10
51	9.76765	17	9.85887	26	0.14113	9.90878	9	9
52	9.76782	18	9.85913	27	0.14087	9.90869	9	8
53	9.76800	17	9.85940	27	0.14060	9.90860	9	7
54	9.76817	18	9.85967	26	0.14033	9.90851	9	6
55	9.76835	17	9.85993	27	0.14007	9.90842	10	5
56	9.76852	18	9.86020	26	0.13980	9.90832	9	4
57	9.76870	17	9.86046	27	0.13954	9.90823	9	3
58	9.76887	17	9.86073	27	0.13927	9.90814	9	2
59	9.76904	18	9.86100	26	0.13900	9.90805	9	1
60	9.76922		9.86126		0.13874	9.90796		0
	Cos. 54		Cot. 54		Tang. 54	Sin. 54		

′	Sin. 36	D.	Tang. 36	d c	Cot. 36	Cos. 36	D.	′
0	9.76922	17	9.86126	27	0.13874	9.90796	9	60
1	9.76939	18	9.86153	26	0.13847	9.90787	10	59
2	9.76957	17	9.86179	27	0.13821	9.90777	9	58
3	9.76974	17	9.86206	26	0.13794	9.90768	9	57
4	9.76991	18	9.86232	27	0.13768	9.90759	9	56
5	9.77009	17	9.86259	26	0.13741	9.90750	9	55
6	9.77026	17	9.86285	27	0.13715	9.90741	10	54
7	9.77043	18	9.86312	26	0.13688	9.90731	9	53
8	9.77061	17	9.86338	27	0.13662	9.90722	9	52
9	9.77078	17	9.86365	27	0.13635	9.90713	9	51
10	9.77095	17	9.86392	26	0.13608	9.90704	10	50
11	9.77112	18	9.86418	27	0.13582	9.90694	9	49
12	9.77130	17	9.86445	26	0.13555	9.90685	9	48
13	9.77147	17	9.86471	27	0.13529	9.90676	9	47
14	9.77164	17	9.86498	26	0.13502	9.90667	10	46
15	9.77181	18	9.86524	27	0.13476	9.90657	9	45
16	9.77199	17	9.86551	26	0.13449	9.90648	9	44
17	9.77216	17	9.86577	26	0.13423	9.90639	9	43
18	9.77233	17	9.86603	27	0.13397	9.90630	10	42
19	9.77250	18	9.86630	26	0.13370	9.90620	9	41
20	9.77268	17	9.86656	27	0.13344	9.90611	9	40
21	9.77285	17	9.86683	26	0.13317	9.90602	10	39
22	9.77302	17	9.86709	27	0.13291	9.90592	9	38
23	9.77319	17	9.86736	26	0.13264	9.90583	9	37
24	9.77336	17	9.86762	27	0.13238	9.90574	9	36
25	9.77353	17	9.86789	26	0.13211	9.90565	10	35
26	9.77370	17	9.86815	27	0.13185	9.90555	9	34
27	9.77387	18	9.86842	26	0.13158	9.90546	9	33
28	9.77405	17	9.86868	26	0.13132	9.90537	10	32
29	9.77422	17	9.86894	27	0.13106	9.90527	9	31
30	9.77439		9.86921		0.13079	9.90518		30
	Cos. 53		Cot. 53		Tang. 53	Sin. 53		

′	Sin. 36	D.	Tang. 36	d c	Cot. 36	Cos. 36	D.	′
30	9.77439	17	9.86921	26	0.13079	9.90518	9	30
31	9.77456	17	9.86947	27	0.13053	9.90509	10	29
32	9.77473	17	9.86974	26	0.13026	9.90499	9	28
33	9.77490	17	9.87000	27	0.13000	9.90490	10	27
34	9.77507	17	9.87027	26	0.12973	9.90480	9	26
35	9.77524	17	9.87053	26	0.12947	9.90471	9	25
36	9.77541	17	9.87079	27	0.12921	9.90462	10	24
37	9.77558	17	9.87106	26	0.12894	9.90452	9	23
38	9.77575	17	9.87132	26	0.12868	9.90443	9	22
39	9.77592	17	9.87158	27	0.12842	9.90434	10	21
40	9.77609	17	9.87185	26	0.12815	9.90424	9	20
41	9.77626	17	9.87211	27	0.12789	9.90415	10	19
42	9.77643	17	9.87238	26	0.12762	9.90405	9	18
43	9.77660	17	9.87264	26	0.12736	9.90396	10	17
44	9.77677	17	9.87290	27	0.12710	9.90386	9	16
45	9.77694	17	9.87317	26	0.12683	9.90377	9	15
46	9.77711	17	9.87343	26	0.12657	9.90368	10	14
47	9.77728	16	9.87369	27	0.12631	9.90358	9	13
48	9.77744	17	9.87396	26	0.12604	9.90349	10	12
49	9.77761	17	9.87422	26	0.12578	9.90339	9	11
50	9.77778	17	9.87448	27	0.12552	9.90330	10	10
51	9.77795	17	9.87475	26	0.12525	9.90320	9	9
52	9.77812	17	9.87501	26	0.12499	9.90311	10	8
53	9.77829	17	9.87527	27	0.12473	9.90301	9	7
54	9.77846	16	9.87554	26	0.12446	9.90292	10	6
55	9.77862	17	9.87580	26	0.12420	9.90282	9	5
56	9.77879	17	9.87606	27	0.12394	9.90273	10	4
57	9.77896	17	9.87633	26	0.12367	9.90263	9	3
58	9.77913	17	9.87659	26	0.12341	9.90254	10	2
59	9.77930	16	9.87685	26	0.12315	9.90244	9	1
60	9.77946		9.87711		0.12289	9.90235		0
	Cos. 53		Cot. 53		Tang. 53	Sin. 53		

′	Sin. 37	D.	Tang. 37	d c	Cot. 37	Cos. 37	D.	′
0	9.77946	17	9.87711	27	0.12289	9.90235	10	60
1	9.77963	17	9.87738	26	0.12262	9.90225	9	59
2	9.77980	17	9.87764	26	0.12236	9.90216	10	58
3	9.77997	16	9.87790	27	0.12210	9.90206	9	57
4	9.78013	17	9.87817	26	0.12183	9.90197	10	56
5	9.78030	17	9.87843	26	0.12157	9.90187	9	55
6	9.78047	16	9.87869	26	0.12131	9.90178	10	54
7	9.78063	17	9.87895	27	0.12105	9.90168	9	53
8	9.78080	17	9.87922	26	0.12078	9.90159	10	52
9	9.78097	16	9.87948	26	0.12052	9.90149	10	51
10	9.78113	17	9.87974	26	0.12026	9.90139	9	50
11	9.78130	17	9.88000	27	0.12000	9.90130	10	49
12	9.78147	16	9.88027	26	0.11973	9.90120	9	48
13	9.78163	17	9.88053	26	0.11947	9.90111	10	47
14	9.78180	17	9.88079	26	0.11921	9.90101	10	46
15	9.78197	16	9.88105	26	0.11895	9.90091	9	45
16	9.78213	17	9.88131	27	0.11869	9.90082	10	44
17	9.78230	16	9.88158	26	0.11842	9.90072	9	43
18	9.78246	17	9.88184	26	0.11816	9.90063	10	42
19	9.78263	17	9.88210	26	0.11790	9.90053	10	41
20	9.78280	16	9.88236	26	0.11764	9.90043	9	40
21	9.78296	17	9.88262	27	0.11738	9.90034	10	39
22	9.78313	16	9.88289	26	0.11711	9.90024	10	38
23	9.78329	17	9.88315	26	0.11685	9.90014	9	37
24	9.78346	16	9.88341	26	0.11659	9.90005	10	36
25	9.78362	17	9.88367	26	0.11633	9.89995	10	35
26	9.78379	16	9.88393	27	0.11607	9.89985	9	34
27	9.78395	17	9.88420	26	0.11580	9.89976	10	33
28	9.78412	16	9.88446	26	0.11554	9.89966	10	32
29	9.78428	17	9.88472	26	0.11528	9.89956	9	31
30	9.78445		9.88498		0.11502	9.89947		30
	Cos. 52		Cot. 52		Tang. 52	Sin. 52		

′	Sin. 37	D.	Tang. 37	d c	Cot. 37	Cos. 37	D.	′
30	9.78445	16	9.88498	26	0.11502	9.89947	10	30
31	9.78461	17	9.88524	26	0.11476	9.89937	10	29
32	9.78478	16	9.88550	27	0.11450	9.89927	9	28
33	9.78494	16	9.88577	26	0.11423	9.89918	10	27
34	9.78510	17	9.88603	26	0.11397	9.89908	10	26
35	9.78527	16	9.88629	26	0.11371	9.89898	10	25
36	9.78543	17	9.88655	26	0.11345	9.89888	9	24
37	9.78560	16	9.88681	26	0.11319	9.89879	10	23
38	9.78576	16	9.88707	26	0.11293	9.89869	10	22
39	9.78592	17	9.88733	26	0.11267	9.89859	10	21
40	9.78609	16	9.88759	27	0.11241	9.89849	9	20
41	9.78625	17	9.88786	26	0.11214	9.89840	10	19
42	9.78642	16	9.88812	26	0.11188	9.89830	10	18
43	9.78658	16	9.88838	26	0.11162	9.89820	10	17
44	9.78674	17	9.88864	26	0.11136	9.89810	9	16
45	9.78691	16	9.88890	26	0.11110	9.89801	10	15
46	9.78707	16	9.88916	26	0.11084	9.89791	10	14
47	9.78723	16	9.88942	26	0.11058	9.89781	10	13
48	9.78739	17	9.88968	26	0.11032	9.89771	10	12
49	9.78756	16	9.88994	26	0.11006	9.89761	9	11
50	9.78772	16	9.89020	26	0.10980	9.89752	10	10
51	9.78788	17	9.89046	27	0.10954	9.89742	10	9
52	9.78805	16	9.89073	26	0.10927	9.89732	10	8
53	9.78821	16	9.89099	26	0.10901	9.89722	10	7
54	9.78837	16	9.89125	26	0.10875	9.89712	10	6
55	9.78853	16	9.89151	26	0.10849	9.89702	9	5
56	9.78869	17	9.89177	26	0.10823	9.89693	10	4
57	9.78886	16	9.89203	26	0.10797	9.89683	10	3
58	9.78902	16	9.89229	26	0.10771	9.89673	10	2
59	9.78918	16	9.89255	26	0.10745	9.89663	10	1
60	9.78934		9.89281		0.10719	9.89653		0
	Cos. 52		Cot. 52		Tang. 52	Sin. 52		

′	Sin. 38	D.	Tang. 38	d c	Cot. 38	Cos. 38	D.	′
0	9.78934	16	9.89281	26	0.10719	9.89653	10	60
1	9.78950	17	9.89307	26	0.10693	9.89643	10	59
2	9.78967	16	9.89333	26	0.10667	9.89633	9	58
3	9.78983	16	9.89359	26	0.10641	9.89624	10	57
4	9.78999	16	9.89385	26	0.10615	9.89614	10	56
5	9.79015	16	9.89411	26	0.10589	9.89604	10	55
6	9.79031	16	9.89437	26	0.10563	9.89594	10	54
7	9.79047	16	9.89463	26	0.10537	9.89584	10	53
8	9.79063	16	9.89489	26	0.10511	9.89574	10	52
9	9.79079	16	9.89515	26	0.10485	9.89564	10	51
10	9.79095	16	9.89541	26	0.10459	9.89554	10	50
11	9.79111	17	9.89567	26	0.10433	9.89544	10	49
12	9.79128	16	9.89593	26	0.10407	9.89534	10	48
13	9.79144	16	9.89619	26	0.10381	9.89524	10	47
14	9.79160	16	9.89645	26	0.10355	9.89514	10	46
15	9.79176	16	9.89671	26	0.10329	9.89504	9	45
16	9.79192	16	9.89697	26	0.10303	9.89495	10	44
17	9.79208	16	9.89723	26	0.10277	9.89485	10	43
18	9.79224	16	9.89749	26	0.10251	9.89475	10	42
19	9.79240	16	9.89775	26	0.10225	9.89465	10	41
20	9.79256	16	9.89801	26	0.10199	9.89455	10	40
21	9.79272	16	9.89827	26	0.10173	9.89445	10	39
22	9.79288	16	9.89853	26	0.10147	9.89435	10	38
23	9.79304	15	9.89879	26	0.10121	9.89425	10	37
24	9.79319	16	9.89905	26	0.10095	9.89415	10	36
25	9.79335	16	9.89931	26	0.10069	9.89405	10	35
26	9.79351	16	9.89957	26	0.10043	9.89395	10	34
27	9.79367	16	9.89983	26	0.10017	9.89385	10	33
28	9.79383	16	9.90009	26	0.09991	9.89375	11	32
29	9.79399	16	9.90035	26	0.09965	9.89364	10	31
30	9.79415		9.90061		0.09939	9.89354		30
	Cos. 51		Cot. 51		Tang. 51	Sin. 51		

′	Sin. 38	D.	Tang. 38	d c	Cot. 38	Cos. 38	D.	′
30	9.79415	16	9.90061	25	0.09939	9.89354	10	30
31	9.79431	16	9.90086	26	0.09914	9.89344	10	29
32	9.79447	16	9.90112	26	0.09888	9.89334	10	28
33	9.79463	15	9.90138	26	0.09862	9.89324	10	27
34	9.79478	16	9.90164	26	0.09836	9.89314	10	26
35	9.79494	16	9.90190	26	0.09810	9.89304	10	25
36	9.79510	16	9.90216	26	0.09784	9.89294	10	24
37	9.79526	16	9.90242	26	0.09758	9.89284	10	23
38	9.79542	16	9.90268	26	0.09732	9.89274	10	22
39	9.79558	15	9.90294	26	0.09706	9.89264	10	21
40	9.79573	16	9.90320	26	0.09680	9.89254	10	20
41	9.79589	16	9.90346	25	0.09654	9.89244	11	19
42	9.79605	16	9.90371	26	0.09629	9.89233	10	18
43	9.79621	15	9.90397	26	0.09603	9.89223	10	17
44	9.79636	16	9.90423	26	0.09577	9.89213	10	16
45	9.79652	16	9.90449	26	0.09551	9.89203	10	15
46	9.79668	16	9.90475	26	0.09525	9.89193	10	14
47	9.79684	15	9.90501	26	0.09499	9.89183	10	13
48	9.79699	16	9.90527	26	0.09473	9.89173	11	12
49	9.79715	16	9.90553	25	0.09447	9.89162	10	11
50	9.79731	15	9.90578	26	0.09422	9.89152	10	10
51	9.79746	16	9.90604	26	0.09396	9.89142	10	9
52	9.79762	16	9.90630	26	0.09370	9.89132	10	8
53	9.79778	15	9.90656	26	0.09344	9.89122	10	7
54	9.79793	16	9.90682	26	0.09318	9.89112	11	6
55	9.79809	16	9.90708	26	0.09292	9.89101	10	5
56	9.79825	15	9.90734	25	0.09266	9.89091	10	4
57	9.79840	16	9.90759	26	0.09241	9.89081	10	3
58	9.79856	16	9.90785	26	0.09215	9.89071	11	2
59	9.79872	15	9.90811	26	0.09189	9.89060	10	1
60	9.79887		9.90837		0.09163	9.89050		0
	Cos. 51		Cot. 51		Tang. 51	Sin. 51		

'	Sin. 39	D.	Tang. 39	d c	Cot. 39	Cos. 39	D.	'
0	9.79887	16	9.90837	26	0.09163	9.89050	10	60
1	9.79903	15	9.90863	26	0.09137	9.89040	10	59
2	9.79918	16	9.90889	25	0.09111	9.89030	10	58
3	9.79934	16	9.90914	26	0.09086	9.89020	11	57
4	9.79950	15	9.90940	26	0.09060	9.89009	10	56
5	9.79965	16	9.90966	26	0.09034	9.88999	10	55
6	9.79981	15	9.90992	26	0.09008	9.88989	11	54
7	9.79996	16	9.91018	25	0.08982	9.88978	10	53
8	9.80012	15	9.91043	26	0.08957	9.88968	10	52
9	9.80027	16	9.91069	26	0.08931	9.88958	10	51
10	9.80043	15	9.91095	26	0.08905	9.88948	11	50
11	9.80058	16	9.91121	26	0.08879	9.88937	10	49
12	9.80074	15	9.91147	25	0.08853	9.88927	10	48
13	9.80089	16	9.91172	26	0.08828	9.88917	11	47
14	9.80105	15	9.91198	26	0.08802	9.88906	10	46
15	9.80120	16	9.91224	26	0.08776	9.88896	10	45
16	9.80136	15	9.91250	26	0.08750	9.88886	11	44
17	9.80151	15	9.91276	25	0.08724	9.88875	10	43
18	9.80166	16	9.91301	26	0.08699	9.88865	10	42
19	9.80182	15	9.91327	26	0.08673	9.88855	11	41
20	9.80197	16	9.91353	26	0.08647	9.88844	10	40
21	9.80213	15	9.91379	25	0.08621	9.88834	10	39
22	9.80228	16	9.91404	26	0.08596	9.88824	11	38
23	9.80244	15	9.91430	26	0.08570	9.88813	10	37
24	9.80259	15	9.91456	26	0.08544	9.88803	10	36
25	9.80274	16	9.91482	25	0.08518	9.88793	11	35
26	9.30290	15	9.91507	26	0.08493	9.88782	10	34
27	9.80305	15	9.91533	26	0.08467	9.88772	11	33
28	9.80320	16	9.91559	26	0.08441	9.88761	10	32
29	9.80336	15	9.91585	25	0.08415	9.88751	10	31
30	9.80351		9.91610		0.08390	9.88741		30
	Cos. 50		Cot. 50		Tang. 50	Sin. 50		

′	Sin. 39	D.	Tang. 39	d c	Cot. 39	Cos. 39	D.	′
30	9.80351	15	9.91610	26	0.08390	9.88741	11	30
31	9.80366	16	9.91636	26	0.08364	9.88730	10	29
32	9.80382	15	9.91662	26	0.08338	9.88720	11	28
33	9.80397	15	9.91688	25	0.08312	9.88709	10	27
34	9.80412	16	9.91713	26	0.08287	9.88699	11	26
35	9.80428	15	9.91739	26	0.08261	9.88688	10	25
36	9.80443	15	9.91765	26	0.08235	9.88678	10	24
37	9.80458	15	9.91791	25	0.08209	9.88668	11	23
38	9.80473	16	9.91816	26	0.08184	9.88657	10	22
39	9.80489	15	9.91842	26	0.08158	9.88647	11	21
40	9.80504	15	9.91868	25	0.08132	9.88636	10	20
41	9.80519	15	9.91893	26	0.08107	9.88626	11	19
42	9.80534	16	9.91919	26	0.08081	9.88615	10	18
43	9.80550	15	9.91945	26	0.08055	9.88605	11	17
44	9.80565	15	9.91971	25	0.08029	9.88594	10	16
45	9.80580	15	9.91996	26	0.08004	9.88584	11	15
46	9.80595	15	9.92022	26	0.07978	9.88573	10	14
47	9.80610	15	9.92048	25	0.07952	9.88563	11	13
48	9.80625	16	9.92073	26	0.07927	9.88552	10	12
49	9.80641	15	9.92099	26	0.07901	9.88542	11	11
50	9.80656	15	9.92125	25	0.07875	9.88531	10	10
51	9.80671	15	9.92150	26	0.07850	9.88521	11	9
52	9.80686	15	9.92176	26	0.07824	9.88510	11	8
53	9.80701	15	9.92202	25	0.07798	9.88499	10	7
54	9.80716	15	9.92227	26	0.07773	9.88489	11	6
55	9.80731	15	9.92253	26	0.07747	9.88478	10	5
56	9.80746	16	9.92279	25	0.07721	9.88468	11	4
57	9.80762	15	9.92304	26	0.07696	9.88457	10	3
58	9.80777	15	9.92330	26	0.07670	9.88447	11	2
59	9.80792	15	9.92356	25	0.07644	9.88436	11	1
60	9.80807		9.92381		0.07619	9.88425		0
	Cos. 50		Cot. 50		Tang. 50	Sin. 50		

'	Sin. 40	D.	Tang. 40	d c	Cot. 40	Cos. 40	D.	'
0	9.80807	15	9.92381	26	0.07619	9.88425	10	60
1	9.80822	15	9.92407	26	0.07593	9.88415	11	59
2	9.80837	15	9.92433	25	0.07567	9.88404	10	58
3	9.80852	15	9.92458	26	0.07542	9.88394	11	57
4	9.80867	15	9.92484	26	0.07516	9.88383	11	56
5	9.80882	15	9.92510	25	0.07490	9.88372	10	55
6	9.80897	15	9.92535	26	0.07465	9.88362	11	54
7	9.80912	15	9.92561	26	0.07439	9.88351	11	53
8	9.80927	15	9.92587	25	0.07413	9.88340	10	52
9	9.80942	15	9.92612	26	0.07388	9.88330	11	51
10	9.80957	15	9.92638	25	0.07362	9.88319	11	50
11	9.80972	15	9.92663	26	0.07337	9.88308	10	49
12	9.80987	15	9.92689	26	0.07311	9.88298	11	48
13	9.81002	15	9.92715	25	0.07285	9.88287	11	47
14	9.81017	15	9.92740	26	0.07260	9.88276	10	46
15	9.81032	15	9.92766	26	0.07234	9.88266	11	45
16	9.81047	14	9.92792	25	0.07208	9.88255	11	44
17	9.81061	15	9.92817	26	0.07183	9.88244	10	43
18	9.81076	15	9.92843	25	0.07157	9.88234	11	42
19	9.81091	15	9.92868	26	0.07132	9.88223	11	41
20	9.81106	15	9.92894	26	0.07106	9.88212	11	40
21	9.81121	15	9.92920	25	0.07080	9.88201	10	39
22	9.81136	15	9.92945	26	0.07055	9.88191	11	38
23	9.81151	15	9.92971	25	0.07029	9.88180	11	37
24	9.81166	14	9.92996	26	0.07004	9.88169	11	36
25	9.81180	15	9.93022	26	0.06978	9.88158	10	35
26	9.81195	15	9.93048	25	0.06952	9.88148	11	34
27	9.81210	15	9.93073	26	0.06927	9.88137	11	33
28	9.81225	15	9.93099	25	0.06901	9.88126	11	32
29	9.81240	14	9.93124	26	0.06876	9.88115	10	31
30	9.81254		9.93150		0.06850	9.88105		30
	Cos. 49		Cot. 49		Tang. 49	Sin. 49		

'	Sin. 40	D.	Tang. 40	d c	Cot. 40	Cos. 40	D.	'
30	9.81254	15	9.93150	25	0.06850	9.88105	11	30
31	9.81269	15	9.93175	26	0.06825	9.88094	11	29
32	9.81284	15	9.93201	26	0.06799	9.88083	11	28
33	9.81299	15	9.93227	25	0.06773	9.88072	11	27
34	9.81314	14	9.93252	26	0.06748	9.88061	10	26
35	9.81328	15	9.93278	25	0.06722	9.88051	11	25
36	9.81343	15	9.93303	26	0.06697	9.88040	11	24
37	9.81358	14	9.93329	25	0.06671	9.88029	11	23
38	9.81372	15	9.93354	26	0.06646	9.88018	11	22
39	9.81387	15	9.93380	26	0.06620	9.88007	11	21
40	9.81402	15	9.93406	25	0.06594	9.87996	11	20
41	9.81417	14	9.93431	26	0.06569	9.87985	10	19
42	9.81431	15	9.93457	25	0.06543	9.87975	11	18
43	9.81446	15	9.93482	26	0.06518	9.87964	11	17
44	9.81461	14	9.93508	25	0.06492	9.87953	11	16
45	9.81475	15	9.93533	26	0.06467	9.87942	11	15
46	9.81490	15	9.93559	25	0.06441	9.87931	11	14
47	9.81505	14	9.93584	26	0.06416	9.87920	11	13
48	9.81519	15	9.93610	26	0.06390	9.87909	11	12
49	9.81534	15	9.93636	25	0.06364	9.87898	11	11
50	9.81549	14	9.93661	26	0.06339	9.87887	10	10
51	9.81563	15	9.93687	25	0.06313	9.87877	11	9
52	9.81578	14	9.93712	26	0.06288	9.87866	11	8
53	9.81592	15	9.93738	25	0.06262	9.87855	11	7
54	9.81607	15	9.93763	26	0.06237	9.87844	11	6
55	9.81622	14	9.93789	25	0.06211	9.87833	11	5
56	9.81636	15	9.93814	26	0.06186	9.87822	11	4
57	9.81651	14	9.93840	25	0.06160	9.87811	11	3
58	9.81665	15	9.93865	26	0.06135	9.87800	11	2
59	9.81680	14	9.93891	25	0.06109	9.87789	11	1
60	9.81694		9.93916		0.06084	9.87778		0
	Cos. 49		Cot. 49		Tang. 49	Sin. 49		

′	Sin. 41	D.	Tang. 41	d c	Cot. 41	Cos. 41	D.	′
0	9.81694	15	9.93916	26	0.06084	9.87778	11	60
1	9.81709	14	9.93942	25	0.06058	9.87767	11	59
2	9.81723	15	9.93967	26	0.06033	9.87756	11	58
3	9.81738	14	9.93993	25	0.06007	9.87745	11	57
4	9.81752	15	9.94018	26	0.05982	9.87734	11	56
5	9.81767	14	9.94044	25	0.05956	9.87723	11	55
6	9.81781	15	9.94069	26	0.05931	9.87712	11	54
7	9.81796	14	9.94095	25	0.05905	9.87701	11	53
8	9.81810	15	9.94120	26	0.05880	9.87690	11	52
9	9.81825	14	9.94146	25	0.05854	9.87679	11	51
10	9.81839	15	9.94171	26	0.05829	9.87668	11	50
11	9.81854	14	9.94197	25	0.05803	9.87657	11	49
12	9.81868	14	9.94222	26	0.05778	9.87646	11	48
13	9.81882	15	9.94248	25	0.05752	9.87635	11	47
14	9.81897	14	9.94273	26	0.05727	9.87624	11	46
15	9.81911	15	9.94299	25	0.05701	9.87613	12	45
16	9.81926	14	9.94324	26	0.05676	9.87601	11	44
17	9.81940	15	9.94350	25	0.05650	9.87590	11	43
18	9.81955	14	9.94375	26	0.05625	9.87579	11	42
19	9.81969	14	9.94401	25	0.05599	9.87568	11	41
20	9.81983	15	9.94426	26	0.05574	9.87557	11	40
21	9.81998	14	9.94452	25	0.05548	9.87546	11	39
22	9.82012	14	9.94477	26	0.05523	9.87535	11	38
23	9.82026	15	9.94503	25	0.05497	9.87524	11	37
24	9.82041	14	9.94528	26	0.05472	9.87513	12	36
25	9.82055	14	9.94554	25	0.05446	9.87501	11	35
26	9.82069	15	9.94579	25	0.05421	9.87490	11	34
27	9.82084	14	9.94604	26	0.05396	9.87479	11	33
28	9.82098	14	9.94630	25	0.05370	9.87468	11	32
29	9.82112	14	9.94655	26	0.05345	9.87457	11	31
30	9.82126		9.94681		0.05319	9.87446		30
	Cos. 48		Cot. 48		Tang. 48	Sin. 48		

′	Sin. 41	D.	Tang. 41	d c	Cot. 41	Cos. 41	D.	′
30	9.82126	15	9.94681	25	0.05319	9.87446	12	30
31	9.82141	14	9.94706	26	0.05294	9.87434	11	29
32	9.82155	14	9.94732	25	0.05268	9.87423	11	28
33	9.82169	15	9.94757	26	0.05243	9.87412	11	27
34	9.82184	14	9.94783	25	0.05217	9.87401	11	26
35	9.82198	14	9.94808	26	0.05192	9.87390	12	25
36	9.82212	14	9.94834	25	0.05166	9.87378	11	24
37	9.82226	14	9.94859	25	0.05141	9.87367	11	23
38	9.82240	15	9.94884	26	0.05116	9.87356	11	22
39	9.82255	14	9.94910	25	0.05090	9.87345	11	21
40	9.82269	14	9.94935	26	0.05065	9.87334	12	20
41	9.82283	14	9.94961	25	0.05039	9.87322	11	19
42	9.82297	14	9.94986	26	0.05014	9.87311	11	18
43	9.82311	15	9.95012	25	0.04988	9.87300	12	17
44	9.82326	14	9.95037	25	0.04963	9.87288	11	16
45	9.82340	14	9.95062	26	0.04938	9.87277	11	15
46	9.82354	14	9.95088	25	0.04912	9.87266	11	14
47	9.82368	14	9.95113	26	0.04887	9.87255	12	13
48	9.82382	14	9.95139	25	0.04861	9.87243	11	12
49	9.82396	14	9.95164	26	0.04836	9.87232	11	11
50	9.82410	14	9.95190	25	0.04810	9.87221	12	10
51	9.82424	15	9.95215	25	0.04785	9.87209	11	9
52	9.82439	14	9.95240	26	0.04760	9.87198	11	8
53	9.82453	14	9.95266	25	0.04734	9.87187	12	7
54	9.82467	14	9.95291	26	0.04709	9.87175	11	6
55	9.82481	14	9.95317	25	0.04683	9.87164	11	5
56	9.82495	14	9.95342	26	0.04658	9.87153	12	4
57	9.82509	14	9.95368	25	0.04632	9.87141	11	3
58	9.82523	14	9.95393	25	0.04607	9.87130	11	2
59	9.82537	14	9.95418	26	0.04582	9.87119	12	1
60	9.82551		9.95444		0.04556	9.87107		0
	Cos. 48		Cot. 48		Tang. 48	Sin. 48		

′	Sin. 42	D.	Tang. 42	d c	Cot. 42	Cos. 42	D.	′
0	9.82551	14	9.95444	25	0.04556	9.87107	11	60
1	9.82565	14	9.95469	26	0.04531	9.87096	11	59
2	9.82579	14	9.95495	25	0.04505	9.87085	12	58
3	9.82593	14	9.95520	25	0.04480	9.87073	11	57
4	9.82607	14	9.95545	26	0.04455	9.87062	12	56
5	9.82621	14	9.95571	25	0.04429	9.87050	11	55
6	9.82635	14	9.95596	26	0.04404	9.87039	11	54
7	9.82649	14	9.95622	25	0.04378	9.87028	12	53
8	9.82663	14	9.95647	25	0.04353	9.87016	11	52
9	9.82677	14	9.95672	26	0.04328	9.87005	12	51
10	9.82691	14	9.95698	25	0.04302	9.86993	11	50
11	9.82705	14	9.95723	25	0.04277	9.86982	12	49
12	9.82719	14	9.95748	26	0.04252	9.86970	11	48
13	9.82733	14	9.95774	25	0.04226	9.86959	12	47
14	9.82747	14	9.95799	26	0.04201	9.86947	11	46
15	9.82761	14	9.95825	25	0.04175	9.86936	12	45
16	9.82775	13	9.95850	25	0.04150	9.86924	11	44
17	9.82788	14	9.95875	26	0.04125	9.86913	11	43
18	9.82802	14	9.95901	25	0.04099	9.86902	12	42
19	9.82816	14	9.95926	26	0.04074	9.86890	11	41
20	9.82830	14	9.95952	25	0.04048	9.86879	12	40
21	9.82844	14	9.95977	25	0.04023	9.86867	12	39
22	9.82858	14	9.96002	26	0.03998	9.86855	11	38
23	9.82872	13	9.96028	25	0.03972	9.86844	12	37
24	9.82885	14	9.96053	25	0.03947	9.86832	11	36
25	9.82899	14	9.96078	26	0.03922	9.86821	12	35
26	9.82913	14	9.96104	25	0.03896	9.86809	11	34
27	9.82927	14	9.96129	26	0.03871	9.86798	12	33
28	9.82941	14	9.96155	25	0.03845	9.86786	11	32
29	9.82955	13	9.96180	25	0.03820	9.86775	12	31
30	9.82968		9.96205		0.03795	9.86763		30
	Cos. 47		Cot. 47		Tang. 47	Sin. 47		

′	Sin. 42	D.	Tang. 42	d.	Cot. 42	Cos. 42	D.	′
30	9.82968	14	9.96205	26	0.03795	9.86763	11	30
31	9.82982	14	9.96231	25	0.03769	9.86752	12	29
32	9.82996	14	9.96256	25	0.03744	9.86740	12	28
33	9.83010	13	9.96281	26	0.03719	9.86728	11	27
34	9.83023	14	9.96307	25	0.03693	9.86717	12	26
35	9.83037	14	9.96332	25	0.03668	9.86705	11	25
36	9.83051	14	9.96357	26	0.03643	9.86694	12	24
37	9.83065	13	9.96383	25	0.03617	9.86682	12	23
38	9.83078	14	9.96408	25	0.03592	9.86670	11	22
39	9.83092	14	9.96433	26	0.03567	9.86659	12	21
40	9.83106	14	9.96459	25	0.03541	9.86647	12	20
41	9.83120	13	9.96484	26	0.03516	9.86635	11	19
42	9.83133	14	9.96510	25	0.03490	9.86624	12	18
43	9.83147	14	9.96535	25	0.03465	9.86612	12	17
44	9.83161	13	9.96560	26	0.03440	9.86600	11	16
45	9.83174	14	9.96586	25	0.03414	9.86589	12	15
46	9.83188	14	9.96611	25	0.03389	9.86577	12	14
47	9.83202	13	9.96636	26	0.03364	9.86565	11	13
48	9.83215	14	9.96662	25	0.03338	9.86554	12	12
49	9.83229	13	9.96687	25	0.03313	9.86542	12	11
50	9.83242	14	9.96712	26	0.03288	9.86530	12	10
51	9.83256	14	9.96738	25	0.03262	9.86518	11	9
52	9.83270	13	9.96763	25	0.03237	9.86507	12	8
53	9.83283	14	9.96788	26	0.03212	9.86495	12	7
54	9.83297	13	9.96814	25	0.03186	9.86483	11	6
55	9.83310	14	9.96839	25	0.03161	9.86472	12	5
56	9.83324	14	9.96864	26	0.03136	9.86460	12	4
57	9.83338	13	9.96890	25	0.03110	9.86448	12	3
58	9.83351	14	9.96915	25	0.03085	9.86436	11	2
59	9.83365	13	9.96940	26	0.03060	9.86425	12	1
60	9.83378		9.96966		0.03034	9.86413		0
	Cos. 47		Cot. 47		Tang. 47	Sin. 47		

′	Sin. 43	D.	Tang. 43	d c	Cot. 43	Cos. 43	D.	′
0	9.83378	14	9.96966	25	0.03034	9.86413	12	60
1	9.83392	13	9.96991	25	0.03009	9.86401	12	59
2	9.83405	14	9.97016	26	0.02984	9.86389	12	58
3	9.83419	13	9.97042	25	0.02958	9.86377	11	57
4	9.83432	14	9.97067	25	0.02933	9.86366	12	56
5	9.83446	13	9.97092	26	0.02908	9.86354	12	55
6	9.83459	14	9.97118	25	0.02882	9.86342	12	54
7	9.83473	13	9.97143	25	0.02857	9.86330	12	53
8	9.83486	14	9.97168	25	0.02832	9.86318	12	52
9	9.83500	13	9.97193	26	0.02807	9.86306	11	51
10	9.83513	14	9.97219	25	0.02781	9.86295	12	50
11	9.83527	13	9.97244	25	0.02756	9.86283	12	49
12	9.83540	14	9.97269	26	0.02731	9.86271	12	48
13	9.83554	13	9.97295	25	0.02705	9.86259	12	47
14	9.83567	14	9.97320	25	0.02680	9.86247	12	46
15	9.83581	13	9.97345	26	0.02655	9.86235	12	45
16	9.83594	14	9.97371	25	0.02629	9.86223	12	44
17	9.83608	13	9.97396	25	0.02604	9.86211	11	43
18	9.83621	13	9.97421	26	0.02579	9.86200	12	42
19	9.83634	14	9.97447	25	0.02553	9.86188	12	41
20	9.83648	13	9.97472	25	0.02528	9.86176	12	40
21	9.83661	13	9.97497	26	0.02503	9.86164	12	39
22	9.83674	14	9.97523	25	0.02477	9.86152	12	38
23	9.83688	13	9.97548	25	0.02452	9.86140	12	37
24	9.83701	14	9.97573	25	0.02427	9.86128	12	36
25	9.83715	13	9.97598	26	0.02402	9.86116	12	35
26	9.83728	13	9.97624	25	0.02376	9.86104	12	34
27	9.83741	14	9.97649	25	0.02351	9.86092	12	33
28	9.83755	13	9.97674	26	0.02326	9.86080	12	32
29	9.83768	13	9.97700	25	0.02300	9.86068	12	31
30	9.83781		9.97725		0.02275	9.86056		30
	Cos. 46		Cot. 46		Tang. 46	Sin. 46		′

′	Sin. 43	D.	Tang. 43	d c	Cot. 43	Cos. 43	D.	′
30	9.83781	14	9.97725	25	0.02275	9.86056	12	30
31	9.83795	13	9.97750	26	0.02250	9.86044	12	29
32	9.83808	13	9.97776	25	0.02224	9.86032	12	28
33	9.83821	13	9.97801	25	0.02199	9.86020	12	27
34	9.83834	14	9.97826	25	0.02174	9.86008	12	26
35	9.83848	13	9.97851	26	0.02149	9.85996	12	25
36	9.83861	13	9.97877	25	0.02123	9.85984	12	24
37	9.83874	13	9.97902	25	0.02098	9.85972	12	23
38	9.83887	14	9.97927	26	0.02073	9.85960	12	22
39	9.83901	13	9.97953	25	0.02047	9.85948	12	21
40	9.83914	13	9.97978	25	0.02022	9.85936	12	20
41	9.83927	13	9.98003	26	0.01997	9.85924	12	19
42	9.83940	14	9.98029	25	0.01971	9.85912	12	18
43	9.83954	13	9.98054	25	0.01946	9.85900	12	17
44	9.83967	13	9.98079	25	0.01921	9.85888	12	16
45	9.83980	13	9.98104	26	0.01896	9.85876	12	15
46	9.83993	13	9.98130	25	0.01870	9.85864	13	14
47	9.84006	14	9.98155	25	0.01845	9.85851	12	13
48	9.84020	13	9.98180	26	0.01820	9.85839	12	12
49	9.84033	13	9.98206	25	0.01794	9.85827	12	11
50	9.84046	13	9.98231	25	0.01769	9.85815	12	10
51	9.84059	13	9.98256	25	0.01744	9.85803	12	9
52	9.84072	13	9.98281	26	0.01719	9.85791	12	8
53	9.84085	13	9.98307	25	0.01693	9.85779	13	7
54	9.84098	14	9.98332	25	0.01668	9.85766	12	6
55	9.84112	13	9.98357	26	0.01643	9.85754	12	5
56	9.84125	13	9.98383	25	0.01617	9.85742	12	4
57	9.84138	13	9.98408	25	0.01592	9.85730	12	3
58	9.84151	13	9.98433	25	0.01567	9.85718	12	2
59	9.84164	13	9.98458	26	0.01542	9.85706	13	1
60	9.84177		9.98484		0.01516	9.85693		0
	Cos. 46		Cot. 46		Tang. 46	Sin. 46		

′	Sin. 44	D.	Tang. 44	d c	Cot. 44	Cos. 44	D.	′
0	9.84177	13	9.98484	25	0.01516	9.85693	12	60
1	9.84190	13	9.98509	25	0.01491	9.85681	12	59
2	9.84203	13	9.98534	26	0.01466	9.85669	12	58
3	9.84216	13	9.98560	25	0.01440	9.85657	12	57
4	9.84229	13	9.98585	25	0.01415	9.85645	13	56
5	9.84242	13	9.98610	25	0.01390	9.85632	12	55
6	9.84255	14	9.98635	26	0.01365	9.85620	12	54
7	9.84269	13	9.98661	25	0.01339	9.85608	12	53
8	9.84282	13	9.98686	25	0.01314	9.85596	13	52
9	9.84295	13	9.98711	26	0.01289	9.85583	12	51
10	9.84308	13	9.98737	25	0.01263	9.85571	12	50
11	9.84321	13	9.98762	25	0.01238	9.85559	12	49
12	9.84334	13	9.98787	25	0.01213	9.85547	13	48
13	9.84347	13	9.98812	26	0.01188	9.85534	12	47
14	9.84360	13	9.98838	25	0.01162	9.85522	12	46
15	9.84373	12	9.98863	25	0.01137	9.85510	13	45
16	9.84385	13	9.98888	25	0.01112	9.85497	12	44
17	9.84398	13	9.98913	26	0.01087	9.85485	12	43
18	9.84411	13	9.98939	25	0.01061	9.85473	13	42
19	9.84424	13	9.98964	25	0.01036	9.85460	12	41
20	9.84437	13	9.98989	26	0.01011	9.85448	12	40
21	9.84450	13	9.99015	25	0.00985	9.85436	13	39
22	9.84463	13	9.99040	25	0.00960	9.85423	12	38
23	9.84476	13	9.99065	25	0.00935	9.85411	12	37
24	9.84489	13	9.99090	26	0.00910	9.85399	13	36
25	9.84502	13	9.99116	25	0.00884	9.85386	12	35
26	9.84515	13	9.99141	25	0.00859	9.85374	13	34
27	9.84528	12	9.99166	25	0.00834	9.85361	12	33
28	9.84540	13	9.99191	26	0.00809	9.85349	12	32
29	9.84553	13	9.99217	25	0.00783	9.85337	13	31
30	9.84566		9.99242		0.00758	9.85324		30
	Cos. 45		Cot 45		Tang. 45	Sin. 45		

′	Sin. 44	D.	Tang 44	d c	Cot. 44	Cos. 44	D.	′
30	9.84566	13	9.99242	25	0.00758	9.85324	12	30
31	9.84579	13	9.99267	26	0.00733	9.85312	13	29
32	9.84592	13	9.99293	25	0.00707	9.85299	12	28
33	9.84605	13	9.99318	25	0.00682	9.85287	13	27
34	9.84618	12	9.99343	25	0.00657	9.85274	12	26
35	9.84630	13	9.99368	26	0.00632	9.85262	12	25
36	9.84643	13	9.99394	25	0.00606	9.85250	13	24
37	9.84656	13	9.99419	25	0.00581	9.85237	12	23
38	9.84669	13	9.99444	25	0.00556	9.85225	13	22
39	9.84682	12	9.99469	26	0.00531	9.85212	12	21
40	9.84694	13	9.99495	25	0.00505	9.85200	13	20
41	9.84707	13	9.99520	25	0.00480	9.85187	12	19
42	9.84720	13	9.99545	25	0.00455	9.85175	13	18
43	9.84733	12	9.99570	26	0.00430	9.85162	12	17
44	9.84745	13	9.99596	25	0.00404	9.85150	13	16
45	9.84758	13	9.99621	25	0.00379	9.85137	12	15
46	9.84771	13	9.99646	26	0.00354	9.85125	13	14
47	9.84784	12	9.99672	25	0.00328	9.85112	12	13
48	9.84796	13	9.99697	25	0.00303	9.85100	13	12
49	9.84809	13	9.99722	25	0.00278	9.85087	13	11
50	9.84822	13	9.99747	26	0.00253	9.85074	12	10
51	9.84835	12	9.99773	25	0.00227	9.85062	13	9
52	9.84847	13	9.99798	25	0.00202	9.85049	12	8
53	9.84860	13	9.99823	25	0.00177	9.85037	13	7
54	9.84873	12	9.99848	26	0.00152	9.85024	12	6
55	9.84885	13	9.99874	25	0.00126	9.85012	13	5
56	9.84898	13	9.99899	25	0.00101	9.84999	13	4
57	9.84911	12	9.99924	25	0.00076	9.84986	12	3
58	9.84923	13	9.99949	26	0.00051	9.84974	13	2
59	9.84936	13	9.99975	25	0.00025	9.84961	12	1
60	9.84949		0.00000		0.00000	9.84949		0
	Cos. 45		Cot. 45		Tang. 45	Sin. 45		

Auflösung der Gleichungen vom 2. und 3. Grade durch Hülfe der Trigonometrie.

Gleichungen vom 2. Grade.

$x^2 + px = q$

Auflösung.

$\text{Tang. } A = \frac{2}{p}\sqrt{q}$

1) $x = \text{Tang. } \frac{1}{2} A \sqrt{q}$

2) $x = -\text{Cotg. } \frac{1}{2} A \sqrt{q}$

$x^2 - px = q$

Auflösung.

$\text{Tang. } A = \frac{2}{p}\sqrt{q}$

1) $x = -\text{Tang. } \frac{1}{2} A \sqrt{q}$

2) $x = \text{Cotg. } \frac{1}{2} A \sqrt{q}$

$x^2 + px = -q$

Auflösung.

$\text{Sin. } A = \frac{2}{p}\sqrt{q}$

1) $x = -\text{Tang. } \frac{1}{2} A \sqrt{q}$

2) $x = -\text{Cotg. } \frac{1}{2} A \sqrt{q}$

Wenn $p^2 < 4q$, so ist x imaginär.

$x^2 - px = -q$

Auflösung.

$\text{Sin. } A = \frac{2}{p}\sqrt{q}$

1) $x = \text{Tang. } \frac{1}{2} A \sqrt{q}$

2) $x = \text{Cotg. } \frac{1}{2} A \sqrt{q}$

Gleichungen vom 3. Grade.

$x^3 + px + q = 0$

Auflösung.

$\text{Tang. } B = \frac{p}{3q} \cdot 2\sqrt{\frac{1}{3}p}$

$\text{Tang. } A = \sqrt[3]{\text{Tang. } \frac{1}{2} B}$

$x = -\text{Cotg. } 2A \cdot 2\sqrt{\frac{1}{3}p}$

$x^3 + px - q = 0$

Auflösung.

$\text{Tang. } B = \frac{p}{3q} \cdot 2\sqrt{\frac{1}{3}p}$

$\text{Tang. } A = \sqrt[3]{\text{Tang. } \frac{1}{2} B}$

$x = \text{Cotg. } 2A \cdot 2\sqrt{\frac{1}{3}p}$

$x^3 - px + q = 0$

Es sei $4p^3 < 27q^2$

Auflösung.

$\text{Sin. } B = \frac{p}{3q} \cdot 2\sqrt{\frac{1}{3}p}$

$\text{Tang. } A = \sqrt[3]{\text{Tang. } \frac{1}{2} B}$

$x = -\frac{2\sqrt{\frac{1}{3}p}}{\text{Sin. } 2A}$

$x^3 - px - q = 0$

Es sei $4p^3 < 27q^2$

Auflösung.

$\text{Sin. } B. = \frac{p}{3q} \cdot 2\sqrt{\frac{1}{3}p}$

$\text{Tang. } A = \sqrt[3]{\text{Tang. } \frac{1}{2} B}$

$x = \frac{2\sqrt{\frac{1}{3}p}}{\text{Sin. } 2A}$

x ist die einzige reelle Wurzel.

Der irreductible Fall.

$x^3 - px + q = 0$

Es sei $4p^3 >$ oder $= 27q^2$

Auflösung.

$\text{Sin. } 3A = \frac{3q}{p} \cdot \frac{1}{2\sqrt{\frac{1}{3}p}}$

1) $x = \text{Sin. } A \cdot 2\sqrt{\frac{1}{3}p}$

2) $x = \text{S. } (60^\circ - A) \cdot 2\sqrt{\frac{1}{3}p}$

3) $x = -\text{S. } (60^\circ + A) \cdot 2\sqrt{\frac{1}{3}p}$

$x^3 - px - q = 0$

Es sei $4p^3 >$ oder $= 27q^2$

Auflösung.

$\text{Sin. } 3A = \frac{3q}{p} \cdot \frac{1}{2\sqrt{\frac{1}{3}p}}$

1) $x = -\text{Sin. } A \cdot 2\sqrt{\frac{1}{3}p}$

2) $x = -\text{S. } (60^\circ - A) \cdot 2\sqrt{\frac{1}{3}p}$

3) $x = \text{Sin. } (60^\circ + A) \cdot 2\sqrt{\frac{1}{3}p}$

Quadrate und Cubi

aller ganzen Zahlen

von 1 — 1000

und

Quadrat- und Cubikwurzeln

aller ganzen Zahlen

von 1 — 100.

Quadrate aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
0	0	10000	40000	90000	160000
1	1	10201	40401	90601	160801
2	4	10404	40804	91204	161604
3	9	10609	41209	91809	162409
4	16	10816	41616	92416	163216
5	25	11025	42025	93025	164025
6	36	11236	42436	93636	164836
7	49	11449	42849	94249	165649
8	64	11664	43264	94864	166464
9	81	11881	43681	95481	167281
10	100	12100	44100	96100	168100
11	121	12321	44521	96721	168921
12	144	12544	44944	97344	169744
13	169	12769	45369	97969	170569
14	196	12996	45796	98596	171396
15	225	13225	46225	99225	172225
16	256	13456	46656	99856	173056
17	289	13689	47089	100489	173889
18	324	13924	47524	101124	174724
19	361	14161	47961	101761	175561
20	400	14400	48400	102400	176400
21	441	14641	48841	103041	177241
22	484	14884	49284	103684	178084
23	529	15129	49729	104329	178929
24	576	15376	50176	104976	179776
25	625	15625	50625	105625	180625
26	676	15876	51076	106276	181476
27	729	16129	51529	106929	182329
28	784	16384	51984	107584	183184
29	841	16641	52441	108241	184041
30	900	16900	52900	108900	184900
31	961	17161	53361	109561	185761
32	1024	17424	53824	110224	186624
33	1089	17689	54289	110889	187489
34	1156	17956	54756	111556	188356

Quadrate aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
35	1225	18225	55225	112225	189225
36	1296	18496	55696	112896	190096
37	1369	18769	56169	113569	190969
38	1444	19044	56644	114244	191844
39	1521	19321	57121	114921	192721
40	1600	19600	57600	115600	193600
41	1681	19881	58081	116281	194481
42	1764	20164	58564	116964	195364
43	1849	20449	59049	117649	196249
44	1936	20736	59536	118336	197136
45	2025	21025	60025	119025	198025
46	2116	21316	60516	119716	198916
47	2209	21609	61009	120409	199809
48	2304	21904	61504	121104	200704
49	2401	22201	62001	121801	201601
50	2500	22500	62500	122500	202500
51	2601	22801	63001	123201	203401
52	2704	23104	63504	123904	204304
53	2809	23409	64009	124609	205209
54	2916	23716	64516	125316	206116
55	3025	24025	65025	126025	207025
56	3136	24336	65536	126736	207936
57	3249	24649	66049	127449	208849
58	3364	24964	66564	128164	209764
59	3481	25281	67081	128881	210681
60	3600	25600	67600	129600	211600
61	3721	25921	68121	130321	212521
62	3844	26244	68644	131044	213444
63	3969	26569	69169	131769	214369
64	4096	26896	69696	132496	215296
65	4225	27225	70225	133225	216225
66	4356	27556	70756	133956	217156
67	4489	27889	71289	134689	218089
68	4624	28224	71824	135424	219024
69	4761	28561	72361	136161	219961

Quadrate aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
70	4900	28900	72900	136900	220900
71	5041	29241	73441	137641	221841
72	5184	29584	73984	138384	222784
73	5329	29929	74529	139129	223729
74	5476	30276	75076	139876	224676
75	5625	30625	75625	140625	225625
76	5776	30976	76176	141376	226576
77	5929	31329	76729	142129	227529
78	6084	31684	77284	142884	228484
79	6241	32041	77841	143641	229441
80	6400	32400	78400	144400	230400
81	6561	32761	78961	145161	231361
82	6724	33124	79524	145924	232324
83	6889	33489	80089	146689	233289
84	7056	33856	80656	147456	234256
85	7225	34225	81225	148225	235225
86	7396	34596	81796	148996	236196
87	7569	34969	82369	149769	237169
88	7744	35344	82944	150544	238144
89	7921	35721	83521	151321	239121
90	8100	36100	84100	152100	240100
91	8281	36481	84681	152881	241081
92	8464	36864	85264	153664	242064
93	8649	37249	85849	154449	243049
94	8836	37636	86436	155236	244036
95	9025	38025	87025	156025	245025
96	9216	38416	87616	156816	246016
97	9409	38809	88209	157609	247009
98	9604	39204	88804	158404	248004
99	9801	39601	89401	159201	249001

Quadrate aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
0	250000	360000	490000	640000	810000
1	251001	361201	491401	641601	811801
2	252004	362404	492804	643204	813604
3	253009	363609	494209	644809	815409
4	254016	364816	495616	646416	817216
5	255025	366025	497025	648025	819025
6	256036	367236	498436	649636	820836
7	257049	368449	499849	651249	822649
8	258064	369664	501264	652864	824464
9	259081	370881	502681	654481	826281
10	260100	372100	504100	656100	828100
11	261121	373321	505521	657721	829921
12	262144	374544	506944	659344	831744
13	263169	375769	508369	660969	833569
14	264196	376996	509796	662596	835396
15	265225	378225	511225	664225	837225
16	266256	379456	512656	665856	839056
17	267289	380689	514089	667489	840889
18	268324	381924	515524	669124	842724
19	269361	383161	516961	670761	844561
20	270400	384400	518400	672400	846400
21	271441	385641	519841	674041	848241
22	272484	386884	521284	675684	850084
23	273529	388129	522729	677329	851929
24	274576	389376	524176	678976	853776
25	275625	390625	525625	680625	855625
26	276676	391876	527076	682276	857476
27	277729	393129	528529	683929	859329
28	278784	394384	529984	685584	861184
29	279841	395641	531441	687241	863041
30	280900	396900	532900	688900	864900
31	281961	398161	534361	690561	866761
32	283024	399424	535824	692224	868624
33	284089	400689	537289	693889	870489
34	285156	401956	538756	695556	872356

Quadrate aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
35	286225	403225	540225	697225	874225
36	287296	404496	541696	698896	876096
37	288369	405769	543169	700569	877969
38	289444	407044	544644	702244	879844
39	290521	408321	546121	703921	881721
40	291600	409600	547600	705600	883600
41	292681	410881	549081	707281	885481
42	293764	412164	550564	708964	887364
43	294849	413449	552049	710649	889249
44	295936	414736	553536	712336	891136
45	297025	416025	555025	714025	893025
46	298116	417316	556516	715716	894916
47	299209	418609	558009	717409	896809
48	300304	419904	559504	719104	898704
49	301401	421201	561001	720801	900601
50	302500	422500	562500	722500	902500
51	303601	423801	564001	724201	904401
52	304704	425104	565504	725904	906304
53	305809	426409	567009	727609	908209
54	306916	427716	568516	729316	910116
55	308025	429025	570025	731025	912025
56	309136	430336	571536	732736	913936
57	310249	431649	573049	734449	915849
58	311364	432964	574564	736164	917764
59	312481	434281	576081	737881	919681
60	313600	435600	577600	739600	921600
61	314721	436921	579121	741321	923521
62	315844	438244	580644	743044	925444
63	316969	439569	582169	744769	927369
64	318096	440896	583696	746496	929296
65	319225	442225	585225	748225	931225
66	320356	443556	586756	749956	933156
67	321489	444889	588289	751689	935089
68	322624	446224	589824	753424	937024
69	323761	447561	591361	755161	938961

Quadrate aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
70	324900	448900	592900	756900	940900
71	326041	450241	594441	758641	942841
72	327184	451584	595984	760384	944784
73	328329	452929	597529	762129	946729
74	329476	454276	599076	763876	948676
75	330625	455625	600625	765625	950625
76	331776	456976	602176	767376	952576
77	332929	458329	603729	769129	954529
78	334084	459684	605284	770884	956484
79	335241	461041	606841	772641	958441
80	336400	462400	608400	774400	960400
81	337561	463761	609961	776161	962361
82	338724	465124	611524	777924	964324
83	339889	466489	613089	779689	966289
84	341056	467856	614656	781456	968256
85	342225	469225	616225	783225	970225
86	343396	470596	617796	784996	972196
87	344569	471969	619369	786769	974169
88	345744	473344	620944	788544	976144
89	346921	474721	622521	790321	978121
90	348100	476100	624100	792100	980100
91	349281	477481	625681	793881	982081
92	350464	478864	627264	795664	984064
93	351649	480249	628849	797449	986049
94	352836	481636	630436	799236	988036
95	354025	483025	632025	801025	990025
96	355216	484416	633616	802816	992016
97	356409	485809	635209	804609	994009
98	357604	487204	636804	806404	996004
99	358801	488601	638401	808201	998001

Cubi aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
0	0	1000000	8000000	27000000	64000000
1	1	1030301	8120601	27270901	64481201
2	8	1061208	8242408	27543608	64964808
3	27	1092727	8365427	27818127	65450827
4	64	1124864	8489664	28094464	65939264
5	125	1157625	8615125	28372625	66430125
6	216	1191016	8741816	28652616	66923416
7	343	1225043	8869743	28934443	67419143
8	512	1259712	8998912	29218112	67917312
9	729	1295029	9129329	29503629	68417929
10	1000	1331000	9261000	29791000	68921000
11	1331	1367631	9393931	30080231	69426531
12	1728	1404928	9528128	30371328	69934528
13	2197	1442897	9663597	30664297	70444997
14	2744	1481544	9800344	30959144	70957944
15	3375	1520875	9938375	31255875	71473375
16	4096	1560896	10077696	31554496	71991296
17	4913	1601613	10218313	31855013	72511713
18	5832	1643032	10360232	32157432	73034632
19	6859	1685159	10503459	32461759	73560059
20	8000	1728000	10648000	32768000	74088000
21	9261	1771561	10793861	33076161	74618461
22	10648	1815848	10941048	33386248	75151448
23	12167	1860867	11089567	33698267	75686967
24	13824	1906624	11239424	34012224	76225024
25	15625	1953125	11390625	34328125	76765625
26	17576	2000376	11543176	34645976	77308776
27	19683	2048383	11697083	34965783	77854483
28	21952	2097152	11852352	35287552	78402752
29	24389	2146689	12008989	35611289	78953589
30	27000	2197000	12167000	35937000	79507000
31	29791	2248091	12326391	36264691	80062991
32	32768	2299968	12487168	36594368	80621568
33	35937	2352637	12649337	36926037	81182737
34	39304	2406104	12812904	37259704	81746504

Cubi aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
35	42875	2460375	12977875	37595375	82312875
36	46656	2515456	13144256	37933056	82881856
37	50653	2571353	13312053	38272753	83453453
38	54872	2628072	13481272	38614472	84027672
39	59319	2685619	13651919	38958219	84604519
40	64000	2744000	13824000	39304000	85184000
41	68921	2803221	13997521	39651821	85766121
42	74088	2863288	14172488	40001688	86350888
43	79507	2924207	14348907	40353607	86938307
44	85184	2985984	14526784	40707584	87528384
45	91125	3048625	14706125	41063625	88121125
46	97336	3112136	14886936	41421736	88716536
47	103823	3176523	15069223	41781923	89314623
48	110592	3241792	15252992	42144192	89915392
49	117649	3307949	15438249	42508549	90518849
50	125000	3375000	15625000	42875000	91125000
51	132651	3442951	15813251	43243551	91733851
52	140608	3511808	16003008	43614208	92345408
53	148877	3581577	16194277	43986977	92959677
54	157464	3652264	16387064	44361864	93576664
55	166375	3723875	16581375	44738875	94196375
56	175616	3796416	16777216	45118016	94818816
57	185193	3869893	16974593	45499293	95443993
58	195112	3944312	17173512	45882712	96071912
59	205379	4019679	17373979	46268279	96702579
60	216000	4096000	17576000	46656000	97336000
61	226981	4173281	17779581	47045881	97972181
62	238328	4251528	17984728	47437928	98611128
63	250047	4330747	18191447	47832147	99252847
64	262144	4410944	18399744	48228544	99897344
65	274625	4492125	18609625	48627125	100544625
66	287496	4574296	18821096	49027896	101194696
67	300763	4657463	19034163	49430863	101847563
68	314432	4741632	19248832	49836032	102503232
69	328509	4826809	19465109	50243409	103161709

Cubi aller ganzen Zahlen von 1 — 1000

N	0	100	200	300	400
70	343000	4913000	19683000	50653000	103823000
71	357911	5000211	19902511	51064811	104487111
72	373248	5088448	20123648	51478848	105154048
73	389017	5177717	20346417	51895117	105823817
74	405224	5268024	20570824	52313624	106496424
75	421875	5359375	20796875	52734375	107171875
76	438976	5451776	21024576	53157376	107850176
77	456533	5545233	21253933	53582633	108531333
78	474552	5639752	21484952	54010152	109215352
79	493039	5735339	21717639	54439939	109902239
80	512000	5832000	21952000	54872000	110592000
81	531441	5929741	22188041	55306341	111284641
82	551368	6028568	22425768	55742968	111980168
83	571787	6128487	22665187	56181887	112678587
84	592704	6229504	22906304	56623104	113379904
85	614125	6331625	23149125	57066625	114084125
86	636056	6434856	23393656	57512456	114791256
87	658503	6539203	23639903	57960603	115501303
88	681472	6644672	23887872	58411072	116214272
89	704969	6751269	24137569	58863869	116930169
90	729000	6859000	24389000	59319000	117649000
91	753571	6967871	24642171	59776471	118370771
92	778688	7077888	24897088	60236288	119095488
93	804357	7189057	25153757	60698457	119823157
94	830584	7301384	25412184	61162984	120553784
95	857375	7414875	25672375	61629875	121287375
96	884736	7529536	25934336	62099136	122023936
97	912673	7645373	26198073	62570773	122763473
98	941192	7762392	26463592	63044792	123505992
99	970299	7880599	26730899	63521199	124251499

Cubi aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
0	125000000	216000000	343000000	512000000	729000000
1	125751501	217081801	344472101	513922401	731432701
2	126506008	218167208	345948408	515849608	733870808
3	127263527	219256227	347428927	517781627	736314327
4	128024064	220348864	348913664	519718464	738763264
5	128787625	221445125	350402625	521660125	741217625
6	129554216	222545016	351895816	523606616	743677416
7	130323843	223648543	353393243	525557943	746142643
8	131096512	224755712	354894912	527514112	748613312
9	131872229	225866529	356400829	529475129	751089429
10	132651000	226981000	357911000	531441000	753571000
11	133432831	228099131	359425431	533411731	756058031
12	134217728	229220928	360944128	535387328	758550528
13	135005697	230346397	362467097	537367797	761048497
14	135796744	231475544	363994344	539353144	763551944
15	136590875	232608375	365525875	541343375	766060875
16	137388096	233744896	367061696	543338496	768575296
17	138188413	234885113	368601813	545338513	771095213
18	138991832	236029032	370146232	547343432	773620632
19	139798359	237176659	371694959	549353259	776151559
20	140608000	238328000	373248000	551368000	778688000
21	141420761	239483061	374805361	553387661	781229961
22	142236648	240641848	376367048	555412248	783777448
23	143055667	241804367	377933067	557441767	786330467
24	143877824	242970624	379503424	559476224	788889024
25	144703125	244140625	381078125	561515625	791453125
26	145531576	245314376	382657176	563559976	794022776
27	146363183	246491883	384240583	565609283	796597983
28	147197952	247673152	385828352	567663552	799178752
29	148035889	248858189	387420489	569722789	801765089
30	148877000	250047000	389017000	571787000	804357000
31	149721291	251239591	390617891	573856191	806954491
32	150568768	252435968	392223168	575930368	809557568
33	151419437	253636137	393832837	578009537	812166237
34	152273304	254840104	395446904	580093704	814780504

Cubi aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
35	153130375	256047875	397065375	582182875	817400375
36	153990656	257259456	398688256	584277056	820025856
37	154854153	258474853	400315553	586376253	822656953
38	155720872	259694072	401947272	588480472	825293672
39	156590819	260917119	403583419	590589719	827936019
40	157464000	262144000	405224000	592704000	830584000
41	158340421	263374721	406869021	594823321	833237621
42	159220088	264609288	408518488	596947688	835896888
43	160103007	265847707	410172407	599077107	838561807
44	160989184	267089984	411830784	601211584	841232384
45	161878625	268336125	413493625	603351125	843908625
46	162771336	269586136	415160936	605495736	846590536
47	163667323	270840023	416832723	607645423	849278123
48	164566592	272097792	418508992	609800192	851971392
49	165469149	273359449	420189749	611960049	854670349
50	166375000	274625000	421875000	614125000	857375000
51	167284151	275894451	423564751	616295051	860085351
52	168196608	277167808	425259008	618470208	862801408
53	169112377	278445077	426957777	620650477	865523177
54	170031464	279726264	428661064	622835864	868250664
55	170953875	281011375	430368875	625026375	870983875
56	171879616	282300416	432081216	627222016	873722816
57	172808693	283593393	433798093	629422793	876467493
58	173741112	284890312	435519512	631628712	879217912
59	174676879	286191179	437245479	633839779	881974079
60	175616000	287496000	438976000	636056000	884736000
61	176558481	288804781	440711081	638277381	887503681
62	177504328	290117528	442450728	640503928	890277128
63	178453547	291434247	444194947	642735647	893056347
64	179406144	292754944	445943744	644972544	895841344
65	180362125	294079625	447697125	647214625	898632125
66	181321496	295408296	449455096	649461896	901428696
67	182284263	296740963	451217663	651714363	904231063
68	183250432	298077632	452984832	653972032	907039232
69	184220009	299418309	454756609	656234909	909853209

Cubi aller ganzen Zahlen von 1 — 1000

N	500	600	700	800	900
70	185193000	300763000	456533000	658503000	912673000
71	186169411	302111711	458314011	660776311	915498611
72	187149248	303464448	460099648	663054848	918330048
73	188132517	304821217	461889917	665338617	921167317
74	189119224	306182024	463684824	667627624	924010424
75	190109375	307546875	465484375	669921875	926859375
76	191102976	308915776	467288576	672221376	929714176
77	192100033	310288733	469097433	674526133	932574833
78	193100552	311665752	470910952	676836152	935441352
79	194104539	313046839	472729139	679151439	938313739
80	195112000	314432000	474552000	681472000	941192000
81	196122941	315821241	476379541	683797841	944076141
82	197137368	317214568	478211768	686128968	946966168
83	198155287	318611987	480048687	688465387	949862087
84	199176704	320013504	481890304	690807104	952763904
85	200201625	321419125	483736625	693154125	955671625
86	201230056	322828856	485587656	695506456	958585256
87	202262003	324242703	487443403	697864103	961504803
88	203297472	325660672	489303872	700227072	964430272
89	204336469	327082769	491169069	702595369	967361669
90	205379000	328509000	493039000	704969000	970299000
91	206425071	329939371	494913671	707347971	973242271
92	207474688	331373888	496793088	709732288	976191488
93	208527857	332812557	498677257	712121957	979146657
94	209584584	334255384	500566184	714516984	982107784
95	210644875	335702375	502459875	716917375	985074875
96	211708736	337153536	254358336	719323136	988047936
97	212776173	338608873	506261573	721734273	991026973
98	213847192	340068392	508169592	724150792	994011992
99	214921799	341532099	510082399	726572699	997002999

Quadrat u. Cubicwurzeln aller ganzen Zahlen von 1 — 100

N	$\sqrt{N}$	$\sqrt[3]{N}$	N	$\sqrt{N}$	$\sqrt[3]{N}$
1	1,0000000	1,0000000	36	6,0000000	3,3019272
2	1,4142136	1,2599210	37	6,0827625	3,3322218
3	1,7320508	1,4422496	38	6,1644140	3,3619754
4	2,0000000	1,5874011	39	6,2449980	3,3912114
5	2,2360680	1,7099759	40	6,3245553	3,4199519
6	2,4494897	1,8171206	41	6,4031242	3,4482172
7	2,6457513	1,9129312	42	6,4807407	3,4760266
8	2,8284271	2,0000000	43	6,5574385	3,5033981
9	3,0000000	2,0800838	44	6,6332496	3,5303483
10	3,1622777	2,1544347	45	6,7082039	3,5568933
11	3,3166248	2,2239801	46	6,7823300	3,5830479
12	3,4641016	2,2894286	47	6,8556546	3,6088261
13	3,6055513	2,3513347	48	6,9282032	3,6342411
14	3,7416574	2,4101422	49	7,0000000	3,6593057
15	3,8729833	2,4662121	50	7,0710678	3,6840314
16	4,0000000	2,5198421	51	7,1414284	3,7084298
17	4,1231056	2,5712816	52	7,2111026	3,7325111
18	4,2426407	2,6207414	53	7,2801099	3,7562858
19	4,3588989	2,6684016	54	7,3484692	3,7797631
20	4,4721360	2,7144177	55	7,4161985	3,8029525
21	4,5825757	2,7589243	56	7,4833148	3,8258624
22	4,6904158	2,8020393	57	7,5498344	3,8485011
23	4,7958315	2,8438670	58	7,6157731	3,8708766
24	4,8989795	2,8844991	59	7,6811457	3,8929965
25	5,0000000	2,9240177	60	7,7459667	3,9148676
26	5,0990195	2,9624960	61	7,8102497	3,9364972
27	5,1961524	3,0000000	62	7,8740079	3,9578915
28	5,2915026	3,0365889	63	7,9372539	3,9790571
29	5,3851648	3,0723168	64	8,0000000	4,0000000
30	5,4772256	3,1072325	65	8,0622577	4,0207256
31	5,5677644	3,1413806	66	8,1240384	4,0412401
32	5,6568542	3,1748021	67	8,1853528	4,0615480
33	5,7445626	3,2075343	68	8,2462113	4,0816551
34	5,8309519	3,2396118	69	8,3066239	4,1015661
35	5,9160798	3,2710663	70	8,3666003	4,1212853

Quadrat u. Cubicwurzeln aller ganzen Zahlen von 1—100

N	$\sqrt{N}$	$\sqrt[3]{N}$	N	$\sqrt{N}$	$\sqrt[3]{N}$
71	8,4261498	4,1408178	86	9,2736185	4,4140049
72	8,4852814	4,1601676	87	9,3273791	4,4310476
73	8,5440037	4,1793392	88	9,3808315	4,4479602
74	8,6023253	4,1983364	89	9,4339811	4,4647451
75	8,6602540	4,2171633	90	9,4868330	4,4814047
76	8,7177979	4,2358236	91	9,5393920	4,4979414
77	8,7749644	4,2543210	92	9,5916630	4,5143574
78	8,8317609	4,2726586	93	9,6436508	4,5306549
79	8,8881944	4,2908404	94	9,6953597	4,5468359
80	8,9442719	4,3088695	95	9,7467943	4,5629026
81	9,0000000	4,3267487	96	9,7979590	4,5788570
82	9,0553851	4,3444815	97	9,8488578	4,5947009
83	9,1104336	4,3620707	98	9,8994949	4,6104363
84	9,1651514	4,3795191	99	9,9498744	4,6260650
85	9,2195445	4,3968296	100	10,0000000	4,6415888

Chordentafel für den Radius 1000.

0°	0'	20'	40'	Diff. für 1'
0	0	6	12	
1	18	23	29	
2	35	41	47	
3	52	58	64	
4	70	76	81	
5	87	93	99	
6	105	111	116	
7	122	128	134	
8	140	145	151	
9	157	163	169	0.29
10	174	180	186	
11	192	198	203	
12	209	215	221	
13	226	232	238	
14	244	250	255	
15	261	267	273	
16	278	284	290	
17	296	301	307	
18	313	319	324	
19	330	336	342	
20	347	353	359	
21	365	370	376	
22	382	387	393	
23	399	404	410	
24	416	422	427	
25	433	439	444	
26	450	456	461	0.28
27	467	473	478	
28	484	490	495	
29	501	506	512	
30	518	523	529	

0°	0'	20'	40'	Diff. für 1'
31	535	540	546	
32	551	557	562	
33	568	574	579	
34	585	590	596	
35	601	607	613	
36	618	624	629	
37	635	640	646	
38	651	657	662	
39	668	673	679	
40	684	690	695	
41	700	706	711	
42	717	722	728	
43	733	738	744	
44	749	755	760	
45	765	771	776	0.27
46	782	787	792	
47	798	803	808	
48	814	819	824	
49	829	835	840	
50	845	851	856	0.26
51	861	866	872	
52	877	882	887	
53	892	898	903	
54	908	913	918	
55	924	929	934	0.25
56	939	944	949	
57	954	959	965	
58	970	975	980	
59	985	990	995	
60	1000	1005	1010	

0°	0'	20'	40'	Diff. für 1'
61	1015	1020	1025	
62	1030	1035	1040	
63	1045	1050	1055	
64	1060	1065	1070	
65	1075	1080	1084	
66	1089	1094	1099	
67	1104	1109	1114	
68	1118	1123	1128	0.24
69	1133	1138	1142	
70	1147	1152	1157	
71	1161	1166	1171	
72	1176	1180	1185	0.23
73	1190	1194	1199	
74	1204	1208	1213	
75	1218	1222	1227	
76	1231	1236	1241	
77	1245	1250	1254	0.22
78	1259	1263	1268	
79	1272	1277	1281	
80	1286	1290	1295	
81	1299	1303	1308	0.21
82	1312	1317	1321	
83	1325	1330	1334	
84	1338	1343	1347	
85	1351	1356	1360	
86	1364	1368	1373	0.20
87	1377	1381	1385	
88	1389	1394	1398	
89	1402	1406	1410	
90	1414	1418	1422	

Die
Gaußischen Logarithmen
um
aus den Logarithmen zweier Zahlen
den Logarithmus ihrer Summe oder
Differenz zu finden.



A	B	D.	C	D.	A	B	D.	C	D.
0.000	0.30103	50	0.30103	50	0.030	0.28629	48	0.31629	52
0.001	0.30053	50	0.30153	50	0.031	0.28581	49	0.31681	51
0.002	0.30003	50	0.30203	50	0.032	0.28532	48	0.31732	52
0.003	0.29953	50	0.30253	50	0.033	0.28484	48	0.31784	52
0.004	0.29903	49	0.30303	51	0.034	0.28436	48	0.31836	52
0.005	0.29854	50	0.30354	50	0.035	0.28388	48	0.31888	52
0.006	0.29804	50	0.30404	50	0.036	0.28340	48	0.31940	52
0.007	0.29754	49	0.30454	51	0.037	0.28292	47	0.31992	53
0.008	0.29705	50	0.30505	50	0.038	0.28245	48	0.32045	52
0.009	0.29655	49	0.30555	51	0.039	0.28197	48	0.32097	52
0.010	0.29606	50	0.30606	50	0.040	0.28149	48	0.32149	52
0.011	0.29556	49	0.30656	51	0.041	0.28101	47	0.32201	53
0.012	0.29507	49	0.30707	51	0.042	0.28054	48	0.32254	52
0.013	0.29458	49	0.30758	51	0.043	0.28006	47	0.32306	53
0.014	0.29409	50	0.30809	50	0.044	0.27959	48	0.32359	52
0.015	0.29359	49	0.30859	51	0.045	0.27911	47	0.32411	53
0.016	0.29310	49	0.30910	51	0.046	0.27864	47	0.32464	53
0.017	0.29261	49	0.30961	51	0.047	0.27817	48	0.32517	52
0.018	0.29212	49	0.31012	51	0.048	0.27769	47	0.32569	53
0.019	0.29163	48	0.31063	52	0.049	0.27722	47	0.32622	53
0.020	0.29115	49	0.31115	51	0.050	0.27675	47	0.32675	53
0.021	0.29066	49	0.31166	51	0.051	0.27628	47	0.32728	53
0.022	0.29017	49	0.31217	51	0.052	0.27581	47	0.32781	53
0.023	0.28968	48	0.31268	52	0.053	0.27534	47	0.32834	53
0.024	0.28920	49	0.31320	51	0.054	0.27487	47	0.32887	53
0.025	0.28871	49	0.31371	51	0.055	0.27440	47	0.32940	53
0.026	0.28822	48	0.31422	52	0.056	0.27393	47	0.32993	53
0.027	0.28774	48	0.31474	52	0.057	0.27346	46	0.33046	54
0.028	0.28726	49	0.31526	51	0.058	0.27300	47	0.33100	53
0.029	0.28677	48	0.31577	52	0.059	0.27253	46	0.33153	54
0.030	0.28629		0.31629		0.060	0.27207		0.33207	

A	B	D.	C	D.	A	B	D.	C	D.
0.060	0.27207	47	0.33207	53	0.090	0.25836	45	0.34836	55
0.061	0.27160	46	0.33260	54	0.091	0.25791	45	0.34891	55
0.062	0.27114	47	0.33314	53	0.092	0.25746	45	0.34946	55
0.063	0.27067	46	0.33367	54	0.093	0.25701	44	0.35001	56
0.064	0.27021	47	0.33421	53	0.094	0.25657	45	0.35057	55
0.065	0.26974	46	0.33474	54	0.095	0.25612	44	0.35112	56
0.066	0.26928	46	0.33528	54	0.096	0.25568	45	0.35168	55
0.067	0.26882	46	0.33582	54	0.097	0.25523	44	0.35223	56
0.068	0.26836	46	0.33636	54	0.098	0.25479	45	0.35279	55
0.069	0.26790	46	0.33690	54	0.099	0.25434	44	0.35334	56
0.070	0.26744	46	0.33744	54	0.100	0.25390	44	0.35390	56
0.071	0.26698	46	0.33798	54	0.101	0.25346	44	0.35446	56
0.072	0.26652	46	0.33852	54	0.102	0.25302	44	0.35502	56
0.073	0.26606	46	0.33906	54	0.103	0.25258	44	0.35558	56
0.074	0.26560	45	0.33960	55	0.104	0.25214	44	0.35614	56
0.075	0.26515	46	0.34015	54	0.105	0.25170	44	0.35670	56
0.076	0.26469	46	0.34069	54	0.106	0.25126	44	0.35726	56
0.077	0.26423	45	0.34123	55	0.107	0.25082	44	0.35782	56
0.078	0.26378	46	0.34178	54	0.108	0.25038	44	0.35838	56
0.079	0.26332	45	0.34232	55	0.109	0.24994	44	0.35894	56
0.080	0.26287	45	0.34287	55	0.110	0.24950	43	0.35950	57
0.081	0.26242	46	0.34342	54	0.111	0.24907	44	0.36007	56
0.082	0.26196	45	0.34396	55	0.112	0.24863	44	0.36063	56
0.083	0.26151	45	0.34451	55	0.113	0.24819	43	0.36119	57
0.084	0.26106	45	0.34506	55	0.114	0.24776	43	0.36176	57
0.085	0.26061	45	0.34561	55	0.115	0.24733	44	0.36233	56
0.086	0.26016	46	0.34616	54	0.116	0.24689	43	0.36289	57
0.087	0.25970	44	0.34670	56	0.117	0.24646	43	0.36346	57
0.088	0.25926	45	0.34726	55	0.118	0.24603	44	0.36403	56
0.089	0.25881	45	0.34781	55	0.119	0.24559	43	0.36459	57
0.090	0.25836		0.34836		0.120	0.24516		0.36516	

A	B	D.	C	D.	A	B	D.	C	D.
0.120	0.24516	43	0.36516	57	0.150	0.23247	41	0.38247	59
0.121	0.24473	43	0.36573	57	0.151	0.23206	41	0.38306	59
0.122	0.24430	43	0.36630	57	0.152	0.23165	42	0.38365	58
0.123	0.24387	43	0.36687	57	0.153	0.23123	41	0.38423	59
0.124	0.24344	43	0.36744	57	0.154	0.23082	41	0.38482	59
0.125	0.24301	43	0.36801	57	0.155	0.23041	41	0.38541	59
0.126	0.24258	42	0.36858	58	0.156	0.23000	41	0.38600	59
0.127	0.24216	43	0.36916	57	0.157	0.22959	41	0.38659	59
0.128	0.24173	43	0.36973	57	0.158	0.22918	41	0.38718	59
0.129	0.24130	42	0.37030	58	0.159	0.22877	41	0.38777	59
0.130	0.24088	43	0.37088	57	0.160	0.22836	41	0.38836	59
0.131	0.24045	42	0.37145	58	0.161	0.22795	41	0.38895	59
0.132	0.24003	43	0.37203	57	0.162	0.22754	41	0.38954	59
0.133	0.23960	42	0.37260	58	0.163	0.22713	40	0.39013	60
0.134	0.23918	43	0.37318	57	0.164	0.22673	41	0.39073	59
0.135	0.23875	42	0.37375	58	0.165	0.22632	41	0.39132	59
0.136	0.23833	42	0.37433	58	0.166	0.22591	40	0.39191	60
0.137	0.23791	42	0.37491	58	0.167	0.22551	41	0.39251	59
0.138	0.23749	42	0.37549	58	0.168	0.22510	40	0.39310	60
0.139	0.23707	42	0.37607	58	0.169	0.22470	40	0.39370	60
0.140	0.23665	42	0.37665	58	0.170	0.22430	41	0.39430	59
0.141	0.23623	42	0.37723	58	0.171	0.22389	40	0.39489	60
0.142	0.23581	42	0.37781	58	0.172	0.22349	40	0.39549	60
0.143	0.23539	42	0.37839	58	0.173	0.22309	40	0.39609	60
0.144	0.23497	42	0.37897	58	0.174	0.22269	40	0.39669	60
0.145	0.23455	41	0.37955	59	0.175	0.22229	40	0.39729	60
0.146	0.23414	42	0.38014	58	0.176	0.22189	40	0.39789	60
0.147	0.23372	42	0.38072	58	0.177	0.22149	40	0.39849	60
0.148	0.23330	41	0.38130	59	0.178	0.22109	40	0.39909	60
0.149	0.23289	42	0.38189	58	0.179	0.22069	40	0.39969	60
0.150	0.23247		0.38247		0.180	0.22029		0.40029	

A	B	D.	C	D.
0.180	0.22029	40	0.40029	60
0.181	0.21989	40	0.40089	60
0.182	0.21949	39	0.40149	61
0.183	0.21910	40	0.40210	60
0.184	0.21870	39	0.40270	61
0.185	0.21831	40	0.40331	60
0.186	0.21791	39	0.40391	61
0.187	0.21752	40	0.40452	60
0.188	0.21712	39	0.40512	61
0.189	0.21673	39	0.40573	61
0.190	0.21634	39	0.40634	61
0.191	0.21595	39	0.40695	61
0.192	0.21556	40	0.40756	60
0.193	0.21516	39	0.40816	61
0.194	0.21477	39	0.40877	61
0.195	0.21438	39	0.40938	61
0.196	0.21399	38	0.40999	62
0.197	0.21361	39	0.41061	61
0.198	0.21322	39	0.41122	61
0.199	0.21283	39	0.41183	61
0.200	0.21244	38	0.41244	62
0.201	0.21206	39	0.41306	61
0.202	0.21167	39	0.41367	61
0.203	0.21128	38	0.41428	62
0.204	0.21090	38	0.41490	62
0.205	0.21052	39	0.41552	61
0.206	0.21013	38	0.41613	62
0.207	0.20975	38	0.41675	62
0.208	0.20937	39	0.41737	61
0.209	0.20898	38	0.41798	62
0.210	0.20860		0.41860	

A	B	D	C	D.
0.210	0.20860	38	0.41860	62
0.211	0.20822	38	0.41922	62
0.212	0.20784	38	0.41984	62
0.213	0.20746	38	0.42046	62
0.214	0.20708	38	0.42108	62
0.215	0.20670	38	0.42170	62
0.216	0.20632	38	0.42232	62
0.217	0.20594	37	0.42294	63
0.218	0.20557	38	0.42357	62
0.219	0.20519	38	0.42419	62
0.220	0.20481	37	0.42481	63
0.221	0.20444	38	0.42544	62
0.222	0.20406	37	0.42606	63
0.223	0.20369	38	0.42669	62
0.224	0.20331	37	0.42731	63
0.225	0.20294	37	0.42794	63
0.226	0.20257	37	0.42857	63
0.227	0.20220	38	0.42920	62
0.228	0.20182	37	0.42982	63
0.229	0.20145	37	0.43045	63
0.230	0.20108	37	0.43108	63
0.231	0.20071	37	0.43171	63
0.232	0.20034	37	0.43234	63
0.233	0.19997	37	0.43297	63
0.234	0.19960	37	0.43360	63
0.235	0.19923	36	0.43423	64
0.236	0.19887	37	0.43487	63
0.237	0.19850	37	0.43550	63
0.238	0.19813	36	0.43613	64
0.239	0.19777	37	0.43677	63
0.240	0.19740		0.43740	

A	B	D.	C	D.	A	B	D.	C	D.
0.240	0.19740	36	0.43740	64	0.270	0.18668	35	0.45668	65
0.241	0.19704	37	0.43804	63	0.271	0.18633	34	0.45733	66
0.242	0.19667	36	0.43867	64	0.272	0.18599	35	0.45799	65
0.243	0.19631	36	0.43931	64	0.273	0.18564	35	0.45864	65
0.244	0.19595	37	0.43995	63	0.274	0.18529	35	0.45929	65
0.245	0.19558	36	0.44058	64	0.275	0.18494	34	0.45994	66
0.246	0.19522	36	0.44122	64	0.276	0.18460	35	0.46060	65
0.247	0.19486	36	0.44186	64	0.277	0.18425	35	0.46125	65
0.248	0.19450	36	0.44250	64	0.278	0.18390	34	0.46190	66
0.249	0.19414	36	0.44314	64	0.279	0.18356	34	0.46256	66
0.250	0.19378	36	0.44378	64	0.280	0.18322	35	0.46322	65
0.251	0.19342	36	0.44442	64	0.281	0.18287	34	0.46387	66
0.252	0.19306	36	0.44506	64	0.282	0.18253	35	0.46453	65
0.253	0.19270	36	0.44570	64	0.283	0.18218	34	0.46518	66
0.254	0.19234	36	0.44634	64	0.284	0.18184	34	0.46584	66
0.255	0.19198	35	0.44698	65	0.285	0.18150	34	0.46650	66
0.256	0.19163	36	0.44763	64	0.286	0.18116	34	0.46716	66
0.257	0.19127	36	0.44827	64	0.287	0.18082	34	0.46782	66
0.258	0.19091	35	0.44891	65	0.288	0.18048	34	0.46848	66
0.259	0.19056	36	0.44956	64	0.289	0.18014	34	0.46914	66
0.260	0.19020	35	0.45020	65	0.290	0.17980	34	0.46980	66
0.261	0.18985	36	0.45085	64	0.291	0.17946	34	0.47046	66
0.262	0.18949	35	0.45149	65	0.292	0.17912	34	0.47112	66
0.263	0.18914	35	0.45214	65	0.293	0.17878	33	0.47178	67
0.264	0.18879	35	0.45279	65	0.294	0.17845	34	0.47245	66
0.265	0.18844	36	0.45344	64	0.295	0.17811	34	0.47311	66
0.266	0.18808	35	0.45408	65	0.296	0.17777	33	0.47377	67
0.267	0.18773	35	0.45473	65	0.297	0.17744	34	0.47444	66
0.268	0.18738	35	0.45538	65	0.298	0.17710	33	0.47510	67
0.269	0.18703	35	0.45603	65	0.299	0.17677	34	0.47577	66
0.270	0.18668		0.45668		0.300	0.17643		0.47643	

A	B	D.	C	D.	A	B	D.	C	D.
0.300	0.17643	33	0.47643	67	0.330	0.16665	32	0.49665	68
0.301	0.17610	33	0.47710	67	0.331	0.16633	32	0.49733	68
0.302	0.17577	33	0.47777	67	0.332	0.16601	32	0.49801	68
0.303	0.17544	34	0.47844	66	0.333	0.16569	31	0.49869	69
0.304	0.17510	33	0.47910	67	0.334	0.16538	32	0.49938	68
0.305	0.17477	33	0.47977	67	0.335	0.16506	32	0.50006	68
0.306	0.17444	33	0.48044	67	0.336	0.16474	31	0.50074	69
0.307	0.17411	33	0.48111	67	0.337	0.16443	32	0.50143	68
0.308	0.17378	33	0.48178	67	0.338	0.16411	31	0.50211	69
0.309	0.17345	33	0.48245	67	0.339	0.16380	31	0.50280	69
0.310	0.17312	33	0.48312	67	0.340	0.16349	32	0.50349	68
0.311	0.17279	32	0.48379	68	0.341	0.16317	31	0.50417	69
0.312	0.17247	33	0.48447	67	0.342	0.16286	31	0.50486	69
0.313	0.17214	33	0.48514	67	0.343	0.16255	31	0.50555	69
0.314	0.17181	33	0.48581	67	0.344	0.16224	32	0.50624	68
0.315	0.17148	32	0.48648	68	0.345	0.16192	31	0.50692	69
0.316	0.17116	33	0.48716	67	0.346	0.16161	31	0.50761	69
0.317	0.17083	32	0.48783	68	0.347	0.16130	31	0.50830	69
0.318	0.17051	33	0.48851	67	0.348	0.16099	31	0.50899	69
0.319	0.17018	32	0.48918	68	0.349	0.16068	31	0.50968	69
0.320	0.16986	32	0.48986	68	0.350	0.16037	30	0.51037	70
0.321	0.16954	33	0.49054	67	0.351	0.16007	31	0.51107	69
0.322	0.16921	32	0.49121	68	0.352	0.15976	31	0.51176	69
0.323	0.16889	32	0.49189	68	0.353	0.15945	31	0.51245	69
0.324	0.16857	32	0.49257	68	0.354	0.15914	30	0.51314	70
0.325	0.16825	32	0.49325	68	0.355	0.15884	31	0.51384	69
0.326	0.16793	32	0.49393	68	0.356	0.15853	31	0.51453	69
0.327	0.16761	32	0.49461	68	0.357	0.15822	30	0.51522	70
0.328	0.16729	32	0.49529	68	0.358	0.15792	31	0.51592	69
0.329	0.16697	32	0.49597	68	0.359	0.15761	30	0.51661	70
0.330	0.16665		0.49665		0.360	0.15731		0.51731	

A	B	D.	C	D.	A	B	D.	C	D.
0.360	0.15731	30	0.51731	70	0.390	0.14841	29	0.53841	71
0.361	0.15701	31	0.51801	69	0.391	0.14812	29	0.53912	71
0.362	0.15670	30	0.51870	70	0.392	0.14783	28	0.53983	72
0.363	0.15640	30	0.51940	70	0.393	0.14755	29	0.54055	71
0.364	0.15610	30	0.52010	70	0.394	0.14726	29	0.54126	71
0.365	0.15580	30	0.52080	70	0.395	0.14697	29	0.54197	71
0.366	0.15550	30	0.52150	70	0.396	0.14668	28	0.54268	72
0.367	0.15520	31	0.52220	69	0.397	0.14640	29	0.54340	71
0.368	0.15489	29	0.52289	71	0.398	0.14611	28	0.54411	72
0.369	0.15460	30	0.52360	70	0.399	0.14583	29	0.54483	71
0.370	0.15430	30	0.52430	70	0.400	0.14554	28	0.54554	72
0.371	0.15400	30	0.52500	70	0.401	0.14526	29	0.54626	71
0.372	0.15370	30	0.52570	70	0.402	0.14497	28	0.54697	72
0.373	0.15340	30	0.52640	70	0.403	0.14469	28	0.54769	72
0.374	0.15310	29	0.52710	71	0.404	0.14441	29	0.54841	71
0.375	0.15281	30	0.52781	70	0.405	0.14412	28	0.54912	72
0.376	0.15251	30	0.52851	70	0.406	0.14384	28	0.54984	72
0.377	0.15221	29	0.52921	71	0.407	0.14356	28	0.55056	72
0.378	0.15192	30	0.52992	70	0.408	0.14328	28	0.55128	72
0.379	0.15162	29	0.53062	71	0.409	0.14300	28	0.55200	72
0.380	0.15133	29	0.53133	71	0.410	0.14272	28	0.55272	72
0.381	0.15104	30	0.53204	70	0.411	0.14244	28	0.55344	72
0.382	0.15074	29	0.53274	71	0.412	0.14216	28	0.55416	72
0.383	0.15045	29	0.53345	71	0.413	0.14188	28	0.55488	72
0.384	0.15016	30	0.53416	70	0.414	0.14160	28	0.55560	72
0.385	0.14986	29	0.53486	71	0.415	0.14132	28	0.55632	72
0.386	0.14957	29	0.53557	71	0.416	0.14104	27	0.55704	73
0.387	0.14928	29	0.53628	71	0.417	0.14077	28	0.55777	72
0.388	0.14899	29	0.53699	71	0.418	0.14049	28	0.55849	72
0.389	0.14870	29	0.53770	71	0.419	0.14021	27	0.55921	73
0.390	0.14841		0.53841		0.420	0.13994		0.55994	

A	B	D.	C	D.	A	B	D.	C	D.
0.420	0.13994	28	0.55994	72	0.450	0.13188	26	0.58188	74
0.421	0.13966	27	0.56066	73	0.451	0.13162	26	0.58262	74
0.422	0.13939	28	0.56139	72	0.452	0.13136	26	0.58336	74
0.423	0.13911	27	0.56211	73	0.453	0.13110	26	0.58410	74
0.424	0.13884	27	0.56284	73	0.454	0.13084	26	0.58484	74
0.425	0.13857	28	0.56357	72	0.455	0.13058	26	0.58558	74
0.426	0.13829	27	0.56429	73	0.456	0.13032	26	0.58632	74
0.427	0.13802	27	0.56502	73	0.457	0.13006	26	0.58706	74
0.428	0.13775	27	0.56575	73	0.458	0.12980	26	0.58780	74
0.429	0.13748	27	0.56648	73	0.459	0.12954	26	0.58854	74
0.430	0.13721	27	0.56721	73	0.460	0.12928	25	0.58928	75
0.431	0.13694	27	0.56794	73	0.461	0.12903	26	0.59003	74
0.432	0.13667	27	0.56867	73	0.462	0.12877	26	0.59077	74
0.433	0.13640	27	0.56940	73	0.463	0.12851	25	0.59151	75
0.434	0.13613	27	0.57013	73	0.464	0.12826	26	0.59226	74
0.435	0.13586	27	0.57086	73	0.465	0.12800	25	0.59300	75
0.436	0.13559	27	0.57159	73	0.466	0.12775	26	0.59375	74
0.437	0.13532	27	0.57232	73	0.467	0.12749	25	0.59449	75
0.438	0.13505	26	0.57305	74	0.468	0.12724	26	0.59524	74
0.439	0.13479	27	0.57379	73	0.469	0.12698	25	0.59598	75
0.440	0.13452	27	0.57452	73	0.470	0.12673	25	0.59673	75
0.441	0.13425	26	0.57525	74	0.471	0.12648	26	0.59748	74
0.442	0.13399	27	0.57599	73	0.472	0.12622	25	0.59822	75
0.443	0.13372	26	0.57672	74	0.473	0.12597	25	0.59897	75
0.444	0.13346	27	0.57746	73	0.474	0.12572	25	0.59972	75
0.445	0.13319	26	0.57819	74	0.475	0.12547	25	0.60047	75
0.446	0.13293	26	0.57893	74	0.476	0.12522	25	0.60122	75
0.447	0.13267	27	0.57967	73	0.477	0.12497	25	0.60197	75
0.448	0.13240	26	0.58040	74	0.478	0.12472	25	0.60272	75
0.449	0.13214	26	0.58114	74	0.479	0.12447	25	0.60347	75
0.450	0.13188		0.58188		0.480	0.12422		0.60422	

A	B	D.	C	D.	A	B	D.	C	D.
0.480	0.12422	25	0.60422	75	0.510	0.11695	24	0.62695	76
0.481	0.12397	25	0.60497	75	0.511	0.11671	23	0.62771	77
0.482	0.12372	24	0.60572	76	0.512	0.11648	24	0.62848	76
0.483	0.12348	25	0.60648	75	0.513	0.11624	23	0.62924	77
0.484	0.12323	25	0.60723	75	0.514	0.11601	24	0.63001	76
0.485	0.12298	24	0.60798	76	0.515	0.11577	23	0.63077	77
0 486	0.12274	25	0.60874	75	0.516	0.11554	23	0.63154	77
0.487	0.12249	25	0.60949	75	0.517	0.11531	24	0.63231	76
0.488	0.12224	24	0.61024	76	0.518	0.11507	23	0.63307	77
0.489	0.12200	25	0.61100	75	0.519	0.11484	23	0.63384	77
0.490	0.12175	24	0.61175	76	0.520	0.11461	23	0.63461	77
0.491	0.12151	24	0.61251	76	0.521	0.11438	23	0.63538	77
0.492	0.12127	25	0.61327	75	0.522	0.11415	23	0.63615	77
0.493	0.12102	24	0.61402	76	0.523	0.11392	24	0.63692	76
0.494	0.12078	24	0.61478	76	0.524	0.11368	23	0.63768	77
0.495	0.12054	24	0.61554	76	0.525	0.11345	22	0.63845	78
0.496	0.12030	25	0.61630	75	0.526	0.11323	23	0.63923	77
0.497	0.12005	24	0.61705	76	0.527	0.11300	23	0.64000	77
0.498	0.11981	24	0.61781	76	0.528	0.11277	23	0.64077	77
0.499	0.11957	24	0.61857	76	0.529	0.11254	23	0.64154	77
0.500	0.11933	24	0.61933	76	0.530	0.11231	23	0.64231	77
0.501	0.11909	24	0.62009	76	0.531	0.11208	22	0.64308	78
0.502	0.11885	24	0.62085	76	0.532	0.11186	23	0.64386	77
0.503	0.11861	24	0.62161	76	0.533	0.11163	23	0.64463	77
0.504	0.11837	23	0.62237	77	0.534	0.11140	22	0.64540	78
0.505	0.11814	24	0.62314	76	0.535	0.11118	23	0.64618	77
0.506	0.11790	24	0.62390	76	0.536	0.11095	22	0.64695	78
0.507	0.11766	24	0.62466	76	0.537	0.11073	23	0.64773	77
0.508	0.11742	23	0.62542	77	0.538	0.11050	22	0.64850	78
0.509	0.11719	24	0.62619	76	0.539	0.11028	23	0.64928	77
0.510	0.11695		0.62695		0.540	0.11005		0.65005	

A	B	D.	C	D.	A	B	D.	C	D.
0.540	0.11005	22	0.65005	78	0.570	0.10351	21	0.67351	79
0.541	0.10983	23	0.65083	77	0.571	0.10330	21	0.67430	79
0.542	0.10960	22	0.65160	78	0.572	0.10309	21	0.67509	79
0.543	0.10938	22	0.65238	78	0.573	0.10288	21	0.67588	79
0.544	0.10916	22	0.65316	78	0.574	0.10267	21	0.67667	79
0.545	0.10894	22	0.65394	78	0.575	0.10246	21	0.67746	79
0.546	0.10872	23	0.65472	77	0.576	0.10225	21	0.67825	79
0.547	0.10849	22	0.65549	78	0.577	0.10204	21	0.67904	79
0.548	0.10827	22	0.65627	78	0.578	0.10183	21	0.67983	79
0.549	0.10805	22	0.65705	78	0.579	0.10162	21	0.68062	79
0.550	0.10783	22	0.65783	78	0.580	0.10141	21	0.68141	79
0.551	0.10761	22	0.65861	78	0.581	0.10120	20	0.68220	80
0.552	0.10739	21	0.65939	79	0.582	0.10100	21	0.68300	79
0.553	0.10718	22	0.66018	78	0.583	0.10079	21	0.68379	79
0.554	0.10696	22	0.66096	78	0.584	0.10058	20	0.68458	80
0.555	0.10674	22	0.66174	78	0.585	0.10038	21	0.68538	79
0.556	0.10652	22	0.66252	78	0.586	0.10017	21	0.68617	79
0.557	0.10630	21	0.66330	79	0.587	0.09996	20	0.68696	80
0.558	0.10609	22	0.66409	78	0.588	0.09976	21	0.68776	79
0.559	0.10587	22	0.66487	78	0.589	0.09955	20	0.68855	80
0.560	0.10565	21	0.66565	79	0.590	0.09935	21	0.68935	79
0.561	0.10544	22	0.66644	78	0.591	0.09914	20	0.69014	80
0.562	0.10522	21	0.66722	79	0.592	0.09894	20	0.69094	80
0.563	0.10501	22	0.66801	78	0.593	0.09874	21	0.69174	79
0.564	0.10479	21	0.66879	79	0.594	0.09853	20	0.69253	80
0.565	0.10458	21	0.66958	79	0.595	0.09833	20	0.69333	80
0.566	0.10437	22	0.67037	78	0.596	0.09813	20	0.69413	80
0.567	0.10415	21	0.67115	79	0.597	0.09793	20	0.69493	80
0.568	0.10394	21	0.67194	79	0.598	0.09773	21	0.69573	79
0.569	0.10373	22	0.67273	78	0.599	0.09752	20	0.69652	80
0.570	0.10351		0.67351		0.600	0.09732		0.69732	

A	B	D.	C	D.	A	B	D.	C	D.
0.600	0.09732	20	0.69732	80	0.630	0.09146	19	0.72146	81
0.601	0.09712	20	0.69812	80	0.631	0.09127	19	0.72227	81
0.602	0.09692	20	0.69892	80	0.632	0.09108	18	0.72308	82
0.603	0.09672	20	0.69972	80	0.633	0.09090	19	0.72390	81
0.604	0.09652	20	0.70052	80	0.634	0.09071	19	0.72471	81
0.605	0.09632	20	0.70132	80	0.635	0.09052	19	0.72552	81
0.606	0.09612	19	0.70212	81	0.636	0.09033	19	0.72633	81
0.607	0.09593	20	0.70293	80	0.637	0.09014	18	0.72714	82
0.608	0.09573	20	0.70373	80	0.638	0.08996	19	0.72796	81
0.609	0.09553	20	0.70453	80	0.639	0.08977	19	0.72877	81
0.610	0.09533	19	0.70533	81	0.640	0.08958	18	0.72958	82
0.611	0.09514	20	0.70614	80	0.641	0.08940	19	0.73040	81
0.612	0.09494	20	0.70694	80	0.642	0.08921	19	0.73121	81
0.613	0.09474	19	0.70774	81	0.643	0.08902	18	0.73202	82
0.614	0.09455	20	0.70855	80	0.644	0.08884	19	0.73284	81
0.615	0.09435	19	0.70935	81	0.645	0.08865	18	0.73365	82
0.616	0.09416	20	0.71016	80	0.646	0.08847	18	0.73447	82
0.617	0.09396	19	0.71096	81	0.647	0.08829	19	0.73529	81
0.618	0.09377	20	0.71177	80	0.648	0.08810	18	0.73610	82
0.619	0.09357	19	0.71257	81	0.649	0.08792	18	0.73692	82
0.620	0.09338	19	0.71338	81	0.650	0.08774	19	0.73774	81
0.621	0.09319	20	0.71419	80	0.651	0.08755	18	0.73855	82
0.622	0.09299	19	0.71499	81	0.652	0.08737	18	0.73937	82
0.623	0.09280	19	0.71580	81	0.653	0.08719	18	0.74019	82
0.624	0.09261	19	0.71661	81	0.654	0.08701	18	0.74101	82
0.625	0.09242	19	0.71742	81	0.655	0.08683	19	0.74183	81
0.626	0.09223	19	0.71823	81	0.656	0.08664	18	0.74264	82
0.627	0.09204	20	0.71904	80	0.657	0.08646	18	0.74346	82
0.628	0.09184	19	0.71984	81	0.658	0.08628	18	0.74428	82
0.629	0.09165	19	0.72065	81	0.659	0.08610	18	0.74510	82
0.630	0.09146		0.72146		0.660	0.08592		0.74592	

A	B	D.	C	D.	A	B	D.	C	D.
0.660	0.08592	18	0.74592	82	0.690	0.08069	17	0.77069	83
0.661	0.08574	17	0.74674	83	0.691	0.08052	17	0.77152	83
0.662	0.08557	18	0.74757	82	0.692	0.08035	17	0.77235	83
0.663	0.08539	18	0.74839	82	0.693	0.08018	17	0.77318	83
0.664	0.08521	18	0.74921	82	0.694	0.08001	16	0.77401	84
0.665	0.08503	18	0.75003	82	0.695	0.07985	17	0.77485	83
0.666	0.08485	17	0.75085	83	0.696	0.07968	17	0.77568	83
0.667	0.08468	18	0.75168	82	0.697	0.07951	17	0.77651	83
0.668	0.08450	18	0.75250	82	0.698	0.07934	16	0.77734	84
0.669	0.08432	17	0.75332	83	0.699	0.07918	17	0.77818	83
0.670	0.08415	18	0.75415	82	0.700	0.07901	17	0.77901	83
0.671	0.08397	18	0.75497	82	0.701	0.07884	16	0.77984	84
0.672	0.08379	17	0.75579	83	0.702	0.07868	17	0.78068	83
0.673	0.08362	18	0.75662	82	0.703	0.07851	16	0.78151	84
0.674	0.08344	17	0.75744	83	0.704	0.07835	17	0.78235	83
0.675	0.08327	18	0.75827	82	0.705	0.07818	16	0.78318	84
0.676	0.08309	17	0.75909	83	0.706	0.07802	17	0.78402	83
0.677	0.08292	17	0.75992	83	0.707	0.07785	16	0.78485	84
0.678	0.08275	18	0.76075	82	0.708	0.07769	16	0.78569	84
0.679	0.08257	17	0.76157	83	0.709	0.07753	17	0.78653	83
0.680	0.08240	17	0.76240	83	0.710	0.07736	16	0.78736	84
0.681	0.08223	17	0.76323	83	0.711	0.07720	16	0.78820	84
0.682	0.08206	18	0.76406	82	0.712	0.07704	17	0.78904	83
0.683	0.08188	17	0.76488	83	0.713	0.07687	16	0.78987	84
0.684	0.08171	17	0.76571	83	0.714	0.07671	16	0.79071	84
0.685	0.08154	17	0.76654	83	0.715	0.07655	16	0.79155	84
0.686	0.08137	17	0.76737	83	0.716	0.07639	16	0.79239	84
0.687	0.08120	17	0.76820	83	0.717	0.07623	16	0.79323	84
0.688	0.08103	17	0.76903	83	0.718	0.07607	16	0.79407	84
0.689	0.08086	17	0.76986	83	0.719	0.07591	16	0.79491	84
0.690	0.08069		0.77069		0.720	0.07575		0.79575	

A	B	D.	C	D.
0.720	0.07575	16	0.79575	84
0.721	0.07559	16	0.79659	84
0.722	0.07543	16	0.79743	84
0.723	0.07527	16	0.79827	84
0.724	0.07511	16	0.79911	84
0.725	0.07495	16	0.79995	84
0.726	0.07479	16	0.80079	84
0.727	0.07463	15	0.80163	85
0.728	0.07448	16	0.80248	84
0.729	0.07432	16	0.80332	84
0.730	0.07416	16	0.80416	84
0.731	0.07400	15	0.80500	85
0.732	0.07385	16	0.80585	84
0.733	0.07369	15	0.80669	85
0.734	0.07354	16	0.80754	84
0.735	0.07338	16	0.80838	84
0.736	0.07322	15	0.80922	85
0.737	0.07307	16	0.81007	84
0.738	0.07291	15	0.81091	85
0.739	0.07276	15	0.81176	85
0.740	0.07261	16	0.81261	84
0.741	0.07245	15	0.81345	85
0.742	0.07230	15	0.81430	85
0.743	0.07215	16	0.81515	84
0.744	0.07199	15	0.81599	85
0.745	0.07184	15	0.81684	85
0.746	0.07169	15	0.81769	85
0.747	0.07154	16	0.81854	84
0.748	0.07138	15	0.81938	85
0.749	0.07123	15	0.82023	85
0.750	0.07108		0.82108	
0.750	0.07108	15	0.82108	85
0.751	0.07093	15	0.82193	85
0.752	0.07078	15	0.82278	85
0.753	0.07063	15	0.82363	85
0.754	0.07048	15	0.82448	85
0.755	0.07033	15	0.82533	85
0.756	0.07018	15	0.82618	85
0.757	0.07003	15	0.82703	85
0.758	0.06988	15	0.82788	85
0.759	0.06973	14	0.82873	86
0.760	0.06959	15	0.82959	85
0.761	0.06944	15	0.83044	85
0.762	0.06929	15	0.83129	85
0.763	0.06914	14	0.83214	86
0.764	0.06900	15	0.83300	85
0.765	0.06885	15	0.83385	85
0.766	0.06870	14	0.83470	86
0.767	0.06856	15	0.83556	85
0.768	0.06841	14	0.83641	86
0.769	0.06827	15	0.83727	85
0.770	0.06812	14	0.83812	86
0.771	0.06798	15	0.83898	85
0.772	0.06783	14	0.83983	86
0.773	0.06769	15	0.84069	85
0.774	0.06754	14	0.84154	86
0.775	0.06740	15	0.84240	85
0.776	0.06725	14	0.84325	86
0.777	0.06711	14	0.84411	86
0.778	0.06697	14	0.84497	86
0.779	0.06683	15	0.84583	85
0.780	0.06668		0.84668	

A	B	D.	C	D.	A	B	D.	C	D.
0.780	0.06668	14	0.84668	86	0.810	0.06254	14	0.87254	86
0.781	0.06654	14	0.84754	86	0.811	0.06240	13	0.87340	87
0.782	0.06640	14	0.84840	86	0.812	0.06227	13	0.87427	87
0.783	0.06626	14	0.84926	86	0.813	0.06214	14	0.87514	86
0.784	0.06612	15	0.85012	85	0.814	0.06200	13	0.87600	87
0.785	0.06597	14	0.85097	86	0.815	0.06187	13	0.87687	87
0.786	0.06583	14	0.85183	86	0.816	0.06174	13	0.87774	87
0.787	0.06569	14	0.85269	86	0.817	0.06161	14	0.87861	86
0.788	0.06555	14	0.85355	86	0.818	0.06147	13	0.87947	87
0.789	0.06541	14	0.85441	86	0.819	0.06134	13	0.88034	87
0.790	0.06527	14	0.85527	86	0.820	0.06121	13	0.88121	87
0.791	0.06513	13	0.85613	87	0.821	0.06108	13	0.88208	87
0.792	0.06500	14	0.85700	86	0.822	0.06095	13	0.88295	87
0.793	0.06486	14	0.85786	86	0.823	0.06082	13	0.88382	87
0.794	0.06472	14	0.85872	86	0.824	0.06069	13	0.88469	87
0.795	0.06458	14	0.85958	86	0.825	0.06056	13	0.88556	87
0.796	0.06444	14	0.86044	86	0.826	0.06043	13	0.88643	87
0.797	0.06430	13	0.86130	87	0.827	0.06030	13	0.88730	87
0.798	0.06417	14	0.86217	86	0.828	0.06017	13	0.88817	87
0.799	0.06403	14	0.86303	86	0.829	0.06004	13	0.88904	87
0.800	0.06389	13	0.86389	87	0.830	0.05991	13	0.88991	87
0.801	0.06376	14	0.86476	86	0.831	0.05978	13	0.89078	87
0.802	0.06362	14	0.86562	86	0.832	0.05965	13	0.89165	87
0.803	0.06348	13	0.86648	87	0.833	0.05952	13	0.89252	87
0.804	0.06335	14	0.86735	86	0.834	0.05939	12	0.89339	88
0.805	0.06321	13	0.86821	87	0.835	0.05927	13	0.89427	87
0.806	0.06308	14	0.86908	86	0.836	0.05914	13	0.89514	87
0.807	0.06294	13	0.86994	87	0.837	0.05901	12	0.89601	88
0.808	0.06281	14	0.87081	86	0.838	0.05889	13	0.89689	87
0.809	0.06267	13	0.87167	87	0.839	0.05876	13	0.89776	87
0.810	0.06254		0.87254		0.840	0.05863		0.89863	

A	B	D.	C	D.
0.840	0.05863	12	0.89863	88
0.841	0.05851	13	0.89951	87
0.842	0.05838	13	0.90038	87
0.843	0.05825	12	0.90125	88
0.844	0.05813	13	0.90213	87
0.845	0.05800	12	0.90300	88
0.846	0.05788	13	0.90388	87
0.847	0.05775	12	0.90475	88
0.848	0.05763	12	0.90563	88
0.849	0.05751	13	0.90651	87
0.850	0.05738	12	0.90738	88
0.851	0.05726	12	0.90826	88
0.852	0.05714	13	0.90914	87
0.853	0.05701	12	0.91001	88
0.854	0.05689	12	0.91089	88
0.855	0.05677	13	0.91177	87
0.856	0.05664	12	0.91264	88
0.857	0.05652	12	0.91352	88
0.858	0.05640	12	0.91440	88
0.859	0.05628	12	0.91528	88
0.860	0.05616	12	0.91616	88
0.861	0.05604	13	0.91704	87
0.862	0.05591	12	0.91791	88
0.863	0.05579	12	0.91879	88
0.864	0.05567	12	0.91967	88
0.865	0.05555	12	0.92055	88
0.866	0.05543	12	0.92143	88
0.867	0.05531	12	0.92231	88
0.868	0.05519	11	0.92319	89
0.869	0.05508	12	0.92408	88
0.870	0.05496		0.92496	
0.870	0.05496	12	0.92496	88
0.871	0.05484	12	0.92584	88
0.872	0.05472	12	0.92672	88
0.873	0.05460	12	0.92760	88
0.874	0.05448	12	0.92848	88
0.875	0.05436	11	0.92936	89
0.876	0.05425	12	0.93025	88
0.877	0.05413	12	0.93113	88
0.878	0.05401	11	0.93201	89
0.879	0.05390	12	0.93290	88
0.880	0.05378	12	0.93378	88
0.881	0.05366	11	0.93466	89
0.882	0.05355	12	0.93555	88
0.883	0.05343	11	0.93643	89
0.884	0.05332	12	0.93732	88
0.885	0.05320	12	0.93820	88
0.886	0.05308	11	0.93908	89
0.887	0.05297	11	0.93997	89
0.888	0.05286	12	0.94086	88
0.889	0.05274	11	0.94174	89
0.890	0.05263	12	0.94263	88
0.891	0.05251	11	0.94351	89
0.892	0.05240	11	0.94440	89
0.893	0.05229	12	0.94529	88
0.894	0.05217	11	0.94617	89
0.895	0.05206	11	0.94706	89
0.896	0.05195	12	0.94795	88
0.897	0.05183	11	0.94883	89
0.898	0.05172	11	0.94972	89
0.899	0.05161	11	0.95061	89
0.900	0.05150		0.95150	

A	B	D	C	D.	A	B	D.	C	D.
0.900	0.05150	11	0.95150	89	0.930	0.04824	10	0.97824	90
0.901	0.05139	12	0.95239	88	0.931	0.04814	11	0.97914	89
0.902	0.05127	11	0.95327	89	0.932	0.04803	10	0.98003	90
0.903	0.05116	11	0.95416	89	0.933	0.04793	11	0.98093	89
0.904	0.05105	11	0.95505	89	0.934	0.04782	10	0.98182	90
0.905	0.05094	11	0.95594	89	0.935	0.04772	10	0.98272	90
0.906	0.05083	11	0.95683	89	0.936	0.04762	11	0.98362	89
0.907	0.05072	11	0.95772	89	0.937	0.04751	10	0.98451	90
0.908	0.05061	11	0.95861	89	0.938	0.04741	10	0.98541	90
0.909	0.05050	11	0.95950	89	0.939	0.04731	11	0.98631	89
0.910	0.05039	11	0.96039	89	0.940	0.04720	10	0.98720	90
0.911	0.05028	11	0.96128	89	0.941	0.04710	10	0.98810	90
0.912	0.05017	11	0.96217	89	0.942	0.04700	11	0.98900	89
0.913	0.05006	11	0.96306	89	0.943	0.04689	10	0.98989	90
0.914	0.04995	10	0.96395	90	0.944	0.04679	10	0.99079	90
0.915	0.04985	11	0.96485	89	0.945	0.04669	10	0.99169	90
0.916	0.04974	11	0.96574	89	0.946	0.04659	10	0.99259	90
0.917	0.04963	11	0.96663	89	0.947	0.04649	10	0.99349	90
0.918	0.04952	11	0.96752	89	0.948	0.04639	11	0.99439	89
0.919	0.04941	10	0.96841	90	0.949	0.04628	10	0.99528	90
0.920	0.04931	11	0.96931	89	0.950	0.04618	10	0.99618	90
0.921	0.04920	11	0.97020	89	0.951	0.04608	10	0.99708	90
0.922	0.04909	11	0.97109	89	0.952	0.04598	10	0.99798	90
0.923	0.04898	10	0.97198	90	0.953	0.04588	10	0.99888	90
0.924	0.04888	11	0.97288	89	0.954	0.04578	10	0.99978	90
0.925	0.04877	10	0.97377	90	0.955	0.04568	10	1.00068	90
0.926	0.04867	11	0.97467	89	0.956	0.04558	10	1.00158	90
0.927	0.04856	11	0.97556	89	0.957	0.04548	10	1.00248	90
0.928	0.04845	10	0.97645	90	0.958	0.04538	10	1.00338	90
0.929	0.04835	11	0.97735	89	0.959	0.04528	9	1.00428	91
0.930	0.04824		0.97824		0.960	0.04519		1.00519	

A	B	D.	C	D.
0.960	0.04519	10	1.00519	90
0.961	0.04509	10	1.00609	90
0.962	0.04499	10	1.00699	90
0.963	0.04489	10	1.00789	90
0.964	0.04479	10	1.00879	90
0.965	0.04469	9	1.00969	91
0.966	0.04460	10	1.01060	90
0.967	0.04450	10	1.01150	90
0.968	0.04440	10	1.01240	90
0.969	0.04430	9	1.01330	91
0.970	0.04421	10	1.01421	90
0.971	0.04411	10	1.01511	90
0.972	0.04401	9	1.01601	91
0.973	0.04392	10	1.01692	90
0.974	0.04382	9	1.01782	91
0.975	0.04373	10	1.01873	90
0.976	0.04363	10	1.01963	90
0.977	0.04353	9	1.02053	91
0.978	0.04344	10	1.02144	90
0.979	0.04334	9	1.02234	91
0.980	0.04325	10	1.02325	90
0.981	0.04315	9	1.02415	91
0.982	0.04306	9	1.02506	91
0.983	0.04297	10	1.02597	90
0.984	0.04287	9	1.02687	91
0.985	0.04278	10	1.02778	90
0.986	0.04268	9	1.02868	91
0.987	0.04259	9	1.02959	91
0.988	0.04250	10	1.03050	90
0.989	0.04240	9	1.03140	91
0.990	0.04231		1.03231	

A	B	D.	C	D.
0.990	0.04231	9	1.03231	91
0.991	0.04222	9	1.03322	91
0.992	0.04213	10	1.03413	90
0.993	0.04203	9	1.03503	91
0.994	0.04194	9	1.03594	91
0.995	0.04185	9	1.03685	91
0.996	0.04176	9	1.03776	91
0.997	0.04167	10	1.03867	90
0.998	0.04157	9	1.03957	91
0.999	0.04148	9	1.04048	91
1.000	0.04139	9	1.04139	91
1.001	0.04130	9	1.04230	91
1.002	0.04121	9	1.04321	91
1.003	0.04112	9	1.04412	91
1.004	0.04103	9	1.04503	91
1.005	0.04094	9	1.04594	91
1.006	0.04085	9	1.04685	91
1.007	0.04076	9	1.04776	91
1.008	0.04067	9	1.04867	91
1.009	0.04058	9	1.04958	91
1.010	0.04049	9	1.05049	91
1.011	0.04040	8	1.05140	92
1.012	0.04032	9	1.05232	91
1.013	0.04023	9	1.05323	91
1.014	0.04014	9	1.05414	91
1.015	0.04005	9	1.05505	91
1.016	0.03996	9	1.05596	91
1.017	0.03987	8	1.05687	92
1.018	0.03979	9	1.05779	91
1.019	0.03970	9	1.05870	91
1.020	0.03961		1.05961	

A	B	D.	C	D.	A	B	D.	C	D.
1.020	0.03961	8	1.05961	92	1.050	0.03708	8	1.08708	92
1.021	0.03953	9	1.06053	91	1.051	0.03700	9	1.08800	91
1.022	0.03944	9	1.06144	91	1.052	0.03691	8	1.08891	92
1.023	0.03935	9	1.06235	91	1.053	0.03683	8	1.08983	92
1.024	0.03926	8	1.06326	92	1.054	0.03675	8	1.09075	92
1.025	0.03918	9	1.06418	91	1.055	0.03667	8	1.09167	92
1.026	0.03909	8	1.06509	92	1.056	0.03659	8	1.09259	92
1.027	0.03901	9	1.06601	91	1.057	0.03651	8	1.09351	92
1.028	0.03892	9	1.06692	91	1.058	0.03643	8	1.09443	92
1.029	0.03883	8	1.06783	92	1.059	0.03635	8	1.09535	92
1.030	0.03875	9	1.06875	91	1.060	0.03627	8	1.09627	92
1.031	0.03866	8	1.06966	92	1.061	0.03619	8	1.09719	92
1.032	0.03858	9	1.07058	91	1.062	0.03611	8	1.09811	92
1.033	0.03849	8	1.07149	92	1.063	0.03603	8	1.09903	92
1.034	0.03841	9	1.07241	91	1.064	0.03595	8	1.09995	92
1.035	0.03832	8	1.07332	92	1.065	0.03587	8	1.10087	92
1.036	0.03824	8	1.07424	92	1.066	0.03579	8	1.10179	92
1.037	0.03816	9	1.07516	91	1.067	0.03571	8	1.10271	92
1.038	0.03807	8	1.07607	92	1.068	0.03563	8	1.10363	92
1.039	0.03799	9	1.07699	91	1.069	0.03555	7	1.10455	93
1.040	0.03790	8	1.07790	92	1.070	0.03548	8	1.10548	92
1.041	0.03782	8	1.07882	92	1.071	0.03540	8	1.10640	92
1.042	0.03774	9	1.07974	91	1.072	0.03532	8	1.10732	92
1.043	0.03765	8	1.08065	92	1.073	0.03524	8	1.10824	92
1.044	0.03757	8	1.08157	92	1.074	0.03516	7	1.10916	93
1.045	0.03749	8	1.08249	92	1.075	0.03509	8	1.11009	92
1.046	0.03741	9	1.08341	91	1.076	0.03501	8	1.11101	92
1.047	0.03732	8	1.08432	92	1.077	0.03493	8	1.11193	92
1.048	0.03724	8	1.08524	92	1.078	0.03485	7	1.11285	93
1.049	0.03716	8	1.08616	92	1.079	0.03478	8	1.11378	92
1.050	0.03708		1.08708		1.080	0.03470		1.11470	

A	B	D.	C	D.	A	B	D.	C	D.
1.080	0.03470	8	1.11470	92	1.110	0.03247	7	1.14247	93
1.081	0.03462	7	1.11562	93	1.111	0.03240	8	1.14340	92
1.082	0.03455	8	1.11655	92	1.112	0.03232	7	1.14432	93
1.083	0.03447	8	1.11747	92	1.113	0.03225	7	1.14525	93
1.084	0.03439	7	1.11839	93	1.114	0.03218	7	1.14618	93
1.085	0.03432	8	1.11932	92	1.115	0.03211	7	1.14711	93
1.086	0.03424	7	1.12024	93	1.116	0.03204	7	1.14804	93
1.087	0.03417	8	1.12117	92	1.117	0.03197	7	1.14897	93
1.088	0.03409	8	1.12209	92	1.118	0.03190	7	1.14990	93
1.089	0.03401	7	1.12301	93	1.119	0.03183	8	1.15083	92
1.090	0.03394	8	1.12394	92	1.120	0.03175	7	1.15175	93
1.091	0.03386	7	1.12486	93	1.121	0.03168	7	1.15268	93
1.092	0.03379	8	1.12579	92	1.122	0.03161	7	1.15361	93
1.093	0.03371	7	1.12671	93	1.123	0.03154	7	1.15454	93
1.094	0.03364	7	1.12764	93	1.124	0.03147	7	1.15547	93
1.095	0.03357	8	1.12857	92	1.125	0.03140	7	1.15640	93
1.096	0.03349	7	1.12949	93	1.126	0.03133	7	1.15733	93
1.097	0.03342	8	1.13042	92	1.127	0.03126	6	1.15826	94
1.098	0.03334	7	1.13134	93	1.128	0.03120	7	1.15920	93
1.099	0.03327	7	1.13227	93	1.129	0.03113	7	1.16013	93
1.100	0.03320	8	1.13320	92	1.130	0.03106	7	1.16106	93
1.101	0.03312	7	1.13412	93	1.131	0.03099	7	1.16199	93
1.102	0.03305	7	1.13505	93	1.132	0.03092	7	1.16292	93
1.103	0.03298	8	1.13598	92	1.133	0.03085	7	1.16385	93
1.104	0.03290	7	1.13690	93	1.134	0.03078	7	1.16478	93
1.105	0.03283	7	1.13783	93	1.135	0.03071	6	1.16571	94
1.106	0.03276	8	1.13876	92	1.136	0.03065	7	1.16665	93
1.107	0.03268	7	1.13968	93	1.137	0.03058	7	1.16758	93
1.108	0.03261	7	1.14061	93	1.138	0.03051	7	1.16851	93
1.109	0.03254	7	1.14154	93	1.139	0.03044	7	1.16944	93
1.110	0.03247		1.14247		1.140	0.03037		1.16037	

A	B	D.	C	D.	A	B	D.	C	D.
1.140	0.03037	6	1.17037	94	1.170	0.02841	6	1.19841	94
1.141	0.03031	7	1.17131	93	1.171	0.02835	6	1.19935	94
1.142	0.03024	7	1.17224	93	1.172	0.02829	7	1.20029	93
1.143	0.03017	6	1.17317	94	1.173	0.02822	6	1.20122	94
1.144	0.03011	7	1.17411	93	1.174	0.02816	6	1.20216	94
1.145	0.03004	7	1.17504	93	1.175	0.02810	7	1.20310	93
1.146	0.02997	6	1.17597	94	1.176	0.02803	6	1.20403	94
1.147	0.02991	7	1.17691	93	1.177	0.02797	6	1.20497	94
1.148	0.02984	7	1.17784	93	1.178	0.02791	6	1.20591	94
1.149	0.02977	6	1.17877	94	1.179	0.02785	6	1.20685	94
1.150	0.02971	7	1.17971	93	1.180	0.02779	7	1.20779	93
1.151	0.02964	7	1.18064	93	1.181	0.02772	6	1.20872	94
1.152	0.02957	6	1.18157	94	1.182	0.02766	6	1.20966	94
1.153	0.02951	7	1.18251	93	1.183	0.02760	6	1.21060	94
1.154	0.02944	6	1.18344	94	1.184	0.02754	6	1.21154	94
1.155	0.02938	7	1.18438	93	1.185	0.02748	6	1.21248	94
1.156	0.02931	6	1.18531	94	1.186	0.02742	7	1.21342	93
1.157	0.02925	7	1.18625	93	1.187	0.02735	6	1.21435	94
1.158	0.02918	6	1.18718	94	1.188	0.02729	6	1.21529	94
1.159	0.02912	7	1.18812	93	1.189	0.02723	6	1.21623	94
1.160	0.02905	6	1.18905	94	1.190	0.02717	6	1.21717	94
1.161	0.02899	7	1.18999	93	1.191	0.02711	6	1.21811	94
1.162	0.02892	6	1.19092	94	1.192	0.02705	6	1.21905	94
1.163	0.02886	7	1.19186	93	1.193	0.02699	6	1.21999	94
1.164	0.02879	6	1.19279	94	1.194	0.02693	6	1.22093	94
1.165	0.02873	6	1.19373	94	1.195	0.02687	6	1.22187	94
1.166	0.02867	7	1.19467	93	1.196	0.02681	6	1.22281	94
1.167	0.02860	6	1.19560	94	1.197	0.02675	6	1.22375	94
1.168	0.02854	6	1.19654	94	1.198	0.02669	6	1.22469	94
1.169	0.02848	7	1.19748	93	1.199	0.02663	6	1.22563	94
1.170	0.02841		1.19841		1.200	0.02657		1.22657	

A	B	D.	C	D.	A	B	D.	C	D
1.200	0.02657	6	1.22657	94	1.230	0.02485	6	1.25485	94
1.201	0.02651	6	1.22751	94	1.231	0.02479	5	1.25579	95
1.202	0.02645	6	1.22845	94	1.232	0.02474	6	1.25674	94
1.203	0.02639	5	1.22939	95	1.233	0.02468	5	1.25768	95
1.204	0.02634	6	1.23034	94	1.234	0.02463	6	1.25863	94
1.205	0.02628	6	1.23128	94	1.235	0.02457	5	1.25957	95
1.206	0.02622	6	1.23222	94	1.236	0.02452	6	1.26052	94
1.207	0.02616	6	1.23316	94	1.237	0.02446	5	1.26146	95
1.208	0.02610	6	1.23410	94	1.238	0.02441	6	1.26241	94
1.209	0.02604	5	1.23504	95	1.239	0.02435	5	1.26335	95
1.210	0.02599	6	1.23599	94	1.240	0.02430	6	1.26430	94
1.211	0.02593	6	1.23693	94	1.241	0.02424	5	1.26524	95
1.212	0.02587	6	1.23787	94	1.242	0.02419	5	1.26619	95
1.213	0.02581	6	1.23881	94	1.243	0.02414	6	1.26714	94
1.214	0.02575	5	1.23975	95	1.244	0.02408	5	1.26808	95
1.215	0.02570	6	1.24070	94	1.245	0.02403	6	1.26903	94
1.216	0.02564	6	1.24164	94	1.246	0.02397	5	1.26997	95
1.217	0.02558	6	1.24258	94	1.247	0.02392	5	1.27092	95
1.218	0.02552	5	1.24352	95	1.248	0.02387	6	1.27187	94
1.219	0.02547	6	1.24447	94	1.249	0.02381	5	1.27281	95
1.220	0.02541	6	1.24541	94	1.250	0.02376	5	1.27376	95
1.221	0.02535	5	1.24635	95	1.251	0.02371	6	1.27471	94
1.222	0.02530	6	1.24730	94	1.252	0.02365	5	1.27565	95
1.223	0.02524	6	1.24824	94	1.253	0.02360	5	1.27660	95
1.224	0.02518	5	1.24918	95	1.254	0.02355	5	1.27755	95
1.225	0.02513	6	1.25013	94	1.255	0.02350	6	1.27850	94
1.226	0.02507	5	1.25107	95	1.256	0.02344	5	1.27944	95
1.227	0.02502	6	1.25202	94	1.257	0.02339	5	1.28039	95
1.228	0.02496	6	1.25296	94	1.258	0.02334	5	1.28134	95
1.229	0.02490	5	1.25390	95	1.259	0.02329	6	1.28229	94
1.230	0.02485		1.25485		1.260	0.02323		1.28323	

A	B	D.	C	D.	A	B	D.	C	D.
1.260	0.02323	5	1.28323	95	1.290	0.02172	5	1.31172	95
1.261	0.02318	5	1.28418	95	1.291	0.02167	5	1.31267	95
1.262	0.02313	5	1.28513	95	1.292	0.02162	4	1.31362	96
1.263	0.02308	5	1.28608	95	1.293	0.02158	5	1.31458	95
1.264	0.02303	6	1.28703	94	1.294	0.02153	5	1.31553	95
1.265	0.02297	5	1.28797	95	1.295	0.02148	5	1.31648	95
1.266	0.02292	5	1.28892	95	1.296	0.02143	5	1.31743	95
1.267	0.02287	5	1.28987	95	1.297	0.02138	5	1.31838	95
1.268	0.02282	5	1.29082	95	1.298	0.02133	4	1.31933	96
1.269	0.02277	5	1.29177	95	1.299	0.02129	5	1.32029	95
1.270	0.02272	5	1.29272	95	1.300	0.02124	5	1.32124	95
1.271	0.02267	5	1.29367	95	1.301	0.02119	5	1.32219	95
1.272	0.02262	5	1.29462	95	1.302	0.02114	4	1.32314	96
1.273	0.02257	5	1.29557	95	1.303	0.02110	5	1.32410	95
1.274	0.02252	6	1.29652	94	1.304	0.02105	5	1.32505	95
1.275	0.02246	5	1.29746	95	1.305	0.02100	5	1.32600	95
1.276	0.02241	5	1.29841	95	1.306	0.02095	4	1.32695	96
1.277	0.02236	5	1.29936	95	1.307	0.02091	5	1.32791	95
1.278	0.02231	5	1.30031	95	1.308	0.02086	5	1.32886	95
1.279	0.02226	5	1.30126	95	1.309	0.02081	4	1.32981	96
1.280	0.02221	5	1.30221	95	1.310	0.02077	5	1.33077	95
1.281	0.02216	5	1.30316	95	1.311	0.02072	5	1.33172	95
1.282	0.02211	4	1.30411	96	1.312	0.02067	4	1.33267	96
1.283	0.02207	5	1.30507	95	1.313	0.02063	5	1.33363	95
1.284	0.02202	5	1.30602	95	1.314	0.02058	5	1.33458	95
1.285	0.02197	5	1.30697	95	1.315	0.02053	4	1.33553	96
1.286	0.02192	5	1.30792	95	1.316	0.02049	5	1.33649	95
1.287	0.02187	5	1.30887	95	1.317	0.02044	4	1.33744	96
1.288	0.02182	5	1.30982	95	1.318	0.02040	5	1.33840	95
1.289	0.02177	5	1.31077	95	1.319	0.02035	5	1.33935	95
1.290	0.02172		1.31172		1.320	0.02030		1.34030	

A	B	D.	C	D.	A	B	D.	C	D.
1.320	0.02030	4	1.34030	96	1.350	0.01898	4	1.36898	96
1.321	0.02026	5	1.34126	95	1.351	0.01894	5	1.36994	95
1.322	0.02021	4	1.34221	96	1.352	0.01889	4	1.37089	96
1.323	0.02017	5	1.34317	95	1.353	0.01885	4	1.37185	96
1.324	0.02012	4	1.34412	96	1.354	0.01881	4	1.37281	96
1.325	0.02008	5	1.34508	95	1.355	0.01877	5	1.37377	95
1.326	0.02003	4	1.34603	96	1.356	0.01872	4	1.37472	96
1.327	0.01999	5	1.34699	95	1.357	0.01868	4	1.37568	96
1.328	0.01994	4	1.34794	96	1.358	0.01864	4	1.37664	96
1.329	0.01990	5	1.34890	95	1.359	0.01860	4	1.37760	96
1.330	0.01985	4	1.34985	96	1.360	0.01856	5	1.37856	95
1.331	0.01981	5	1.35081	95	1.361	0.01851	4	1.37951	96
1.332	0.01976	4	1.35176	96	1.362	0.01847	4	1.38047	96
1.333	0.01972	5	1.35272	95	1.363	0.01843	4	1.38143	96
1.334	0.01967	4	1.35367	96	1.364	0.01839	4	1.38239	96
1.335	0.01963	4	1.35463	96	1.365	0.01835	4	1.38335	96
1.336	0.01959	5	1.35559	95	1.366	0.01831	4	1.38431	96
1.337	0.01954	4	1.35654	96	1.367	0.01827	5	1.38527	95
1.338	0.01950	5	1.35750	95	1.368	0.01822	4	1.38622	96
1.339	0.01945	4	1.35845	96	1.369	0.01818	4	1.38718	96
1.340	0.01941	4	1.35941	96	1.370	0.01814	4	1.38814	96
1.341	0.01937	5	1.36037	95	1.371	0.01810	4	1.38910	96
1.342	0.01932	4	1.36132	96	1.372	0.01806	4	1.39006	96
1.343	0.01928	4	1.36228	96	1.373	0.01802	4	1.39102	96
1.344	0.01924	5	1.36324	95	1.374	0.01798	4	1.39198	96
1.345	0.01919	4	1.36419	96	1.375	0.01794	4	1.39294	96
1.346	0.01915	4	1.36515	96	1.376	0.01790	4	1.39390	96
1.347	0.01911	5	1.36611	95	1.377	0.01786	4	1.39486	96
1.348	0.01906	4	1.36706	96	1.378	0.01782	4	1.39582	96
1.349	0.01902	4	1.36802	96	1.379	0.01778	4	1.39678	96
1.350	0.01898		1.36898		1.380	0.01774		1.39774	

A	B	D.	C	D.	A	B	D.	C	D
1.380	0.01774	4	1.39774	96	1.410	0.01658	4	1.42658	96
1.381	0.01770	4	1.39870	96	1.411	0.01654	4	1.42754	96
1.382	0.01766	4	1.39966	96	1.412	0.01650	4	1.42850	96
1.383	0.01762	4	1.40062	96	1.413	0.01646	3	1.42946	97
1.384	0.01758	4	1.40158	96	1.414	0.01643	4	1.43043	96
1.385	0.01754	4	1.40254	96	1.415	0.01639	4	1.43139	96
1.386	0.01750	4	1.40350	96	1.416	0.01635	3	1.43235	97
1.387	0.01746	4	1.40446	96	1.417	0.01632	4	1.43332	96
1.388	0.01742	4	1.40542	96	1.418	0.01628	4	1.43428	96
1.389	0.01738	4	1.40638	96	1.419	0.01624	3	1.43524	97
1.390	0.01734	4	1.40734	96	1.420	0.01621	4	1.43621	96
1.391	0.01730	4	1.40830	96	1.421	0.01617	4	1.43717	96
1.392	0.01726	4	1.40926	96	1.422	0.01613	3	1.43813	97
1.393	0.01722	3	1.41022	97	1.423	0.01610	4	1.43910	96
1.394	0.01719	4	1.41119	96	1.424	0.01606	4	1.44006	96
1.395	0.01715	4	1.41215	96	1.425	0.01602	3	1.44102	97
1.396	0.01711	4	1.41311	96	1.426	0.01599	4	1.44199	96
1.397	0.01707	4	1.41407	96	1.427	0.01595	4	1.44295	96
1.398	0.01703	4	1.41503	96	1.428	0.01591	3	1.44391	97
1.399	0.01699	4	1.41599	96	1.429	0.01588	4	1.44488	96
1.400	0.01695	3	1.41695	97	1.430	0.01584	3	1.44584	97
1.401	0.01692	4	1.41792	96	1.431	0.01581	4	1.44681	96
1.402	0.01688	4	1.41888	96	1.432	0.01577	3	1.44777	97
1.403	0.01684	4	1.41984	96	1.433	0.01574	4	1.44874	96
1.404	0.01680	4	1.42080	96	1.434	0.01570	4	1.44970	96
1.405	0.01676	3	1.42176	97	1.435	0.01566	3	1.45066	97
1.406	0.01673	4	1.42273	96	1.436	0.01563	4	1.45163	96
1.407	0.01669	4	1.42369	96	1.437	0.01559	3	1.45259	97
1.408	0.01665	4	1.42465	96	1.438	0.01556	4	1.45356	96
1.409	0.01661	3	1.42561	97	1.439	0.01552	3	1.45452	97
1.410	0.01658		1.42658		1.440	0.01549		1.45549	

A	B	D.	C	D.	A	B	D.	C	D.
1.440	0.01549	4	1.45549	96	1.470	0.01447	3	1.48447	97
1.441	0.01545	3	1.45645	97	1.471	0.01444	3	1.48544	97
1.442	0.01542	4	1.45742	96	1.472	0.01441	4	1.48641	96
1.443	0.01538	3	1.45838	97	1.473	0.01437	3	1.48737	97
1.444	0.01535	4	1.45935	96	1.474	0.01434	3	1.48834	97
1.445	0.01531	3	1.46031	97	1.475	0.01431	3	1.48931	97
1.446	0.01528	3	1.46128	97	1.476	0.01428	4	1.49028	96
1.447	0.01525	4	1.46225	96	1.477	0.01424	3	1.49124	97
1.448	0.01521	3	1.46321	97	1.478	0.01421	3	1.49221	97
1.449	0.01518	4	1.46418	96	1.479	0.01418	3	1.49318	97
1.450	0.01514	3	1.46514	97	1.480	0.01415	3	1.49415	97
1.451	0.01511	4	1.46611	96	1.481	0.01412	4	1.49512	96
1.452	0.01507	3	1.46707	97	1.482	0.01408	3	1.49608	97
1.453	0.01504	3	1.46804	97	1.483	0.01405	3	1.49705	97
1.454	0.01501	4	1.46901	96	1.484	0.01402	3	1.49802	97
1.455	0.01497	3	1.46997	97	1.485	0.01399	3	1.49899	97
1.456	0.01494	4	1.47094	96	1.486	0.01396	3	1.49996	97
1.457	0.01490	3	1.47190	97	1.487	0.01393	4	1.50093	96
1.458	0.01487	3	1.47287	97	1.488	0.01389	3	1.50189	97
1.459	0.01484	4	1.47384	96	1.489	0.01386	3	1.50286	97
1.460	0.01480	3	1.47480	97	1.490	0.01383	3	1.50383	97
1.461	0.01477	3	1.47577	97	1.491	0.01380	3	1.50480	97
1.462	0.01474	4	1.47674	96	1.492	0.01377	3	1.50577	97
1.463	0.01470	3	1.47770	97	1.493	0.01374	3	1.50674	97
1.464	0.01467	3	1.47867	97	1.494	0.01371	3	1.50771	97
1.465	0.01464	4	1.47964	96	1.495	0.01368	4	1.50868	96
1.466	0.01460	3	1.48060	97	1.496	0.01364	3	1.50964	97
1.467	0.01457	3	1.48157	97	1.497	0.01361	3	1.51061	97
1.468	0.01454	4	1.48254	96	1.498	0.01358	3	1.51158	97
1.469	0.01450	3	1.48350	97	1.499	0.01355	3	1.51255	97
1.470	0.01447		1.48447		1.500	0.01352		1.51352	

A	B	D.	C	D.	A	B	D.	C	D.
1.500	0.01352	3	1.51352	97	1.530	0.01263	3	1.54263	97
1.501	0.01349	3	1.51449	97	1.531	0.01260	3	1.54360	97
1.502	0.01346	3	1.51546	97	1.532	0.01257	2	1.54457	98
1.503	0.01343	3	1.51643	97	1.533	0.01255	3	1.54555	97
1.504	0.01340	3	1.51740	97	1.534	0.01252	3	1.54652	97
1.505	0.01337	3	1.51837	97	1.535	0.01249	3	1.54749	97
1.506	0.01334	3	1.51934	97	1.536	0.01246	3	1.54846	97
1.507	0.01331	3	1.52031	97	1.537	0.01243	3	1.54943	97
1.508	0.01328	3	1.52128	97	1.538	0.01240	2	1.55040	98
1.509	0.01325	3	1.52225	97	1.539	0.01238	3	1.55138	97
1.510	0.01322	3	1.52322	97	1.540	0.01235	3	1.55235	97
1.511	0.01319	3	1.52419	97	1.541	0.01232	3	1.55332	97
1.512	0.01316	3	1.52516	97	1.542	0.01229	3	1.55429	97
1.513	0.01313	3	1.52613	97	1.543	0.01226	2	1.55526	98
1.514	0.01310	3	1.52710	97	1.544	0.01224	3	1.55624	97
1.515	0.01307	3	1.52807	97	1.545	0.01221	3	1.55721	97
1.516	0.01304	3	1.52904	97	1.546	0.01218	3	1.55818	97
1.517	0.01301	3	1.53001	97	1.547	0.01215	2	1.55915	98
1.518	0.01298	3	1.53098	97	1.548	0.01213	3	1.56013	97
1.519	0.01295	3	1.53195	97	1.549	0.01210	3	1.56110	97
1.520	0.01292	3	1.53292	97	1.550	0.01207	3	1.56207	97
1.521	0.01289	3	1.53389	97	1.551	0.01204	2	1.56304	98
1.522	0.01286	3	1.53486	97	1.552	0.01202	3	1.56402	97
1.523	0.01283	3	1.53583	97	1.553	0.01199	3	1.56499	97
1.524	0.01280	2	1.53680	98	1.554	0.01196	3	1.56596	97
1.525	0.01278	3	1.53778	97	1.555	0.01193	2	1.56693	98
1.526	0.01275	3	1.53875	97	1.556	0.01191	3	1.56791	97
1.527	0.01272	3	1.53972	97	1.557	0.01188	3	1.56888	97
1.528	0.01269	3	1.54069	97	1.558	0.01185	2	1.56985	98
1.529	0.01266	3	1.54166	97	1.559	0.01183	3	1.57083	97
1.530	0.01263		1.54263		1.560	0.01180		1.57180	

A	B	D	C	D.	A	B	D.	C	D
1.560	0.01180	3	1.57180	97	1.590	0.01102	2	1.60102	98
1.561	0.01177	2	1.57277	98	1.591	0.01100	3	1.60200	97
1.562	0.01175	3	1.57375	97	1.592	0.01097	2	1.60297	98
1.563	0.01172	3	1.57472	97	1.593	0.01095	3	1.60395	97
1.564	0.01169	2	1.57569	98	1.594	0.01092	2	1.60492	98
1.565	0.01167	3	1.57667	97	1.595	0.01090	3	1.60590	97
1.566	0.01164	3	1.57764	97	1.596	0.01087	2	1.60687	98
1.567	0.01161	2	1.57861	98	1.597	0.01085	3	1.60785	97
1.568	0.01159	3	1.57959	97	1.598	0.01082	2	1.60882	98
1.569	0.01156	3	1.58056	97	1.599	0.01080	3	1.60980	97
1.570	0.01153	2	1.58153	98	1.600	0.01077	2	1.61077	98
1.571	0.01151	3	1.58251	97	1.601	0.01075	2	1.61175	98
1.572	0.01148	2	1.58348	98	1.602	0.01073	3	1.61273	97
1.573	0.01146	3	1.58446	97	1.603	0.01070	2	1.61370	98
1.574	0.01143	3	1.58543	97	1.604	0.01068	3	1.61468	97
1.575	0.01140	2	1.58640	98	1.605	0.01065	2	1.61565	98
1.576	0.01138	3	1.58738	97	1.606	0.01063	3	1.61663	97
1.577	0.01135	2	1.58835	98	1.607	0.01060	2	1.61760	98
1.578	0.01133	3	1.58933	97	1.608	0.01058	2	1.61858	98
1.579	0.01130	2	1.59030	98	1.609	0.01056	3	1.61956	97
1.580	0.01128	3	1.59128	97	1.610	0.01053	2	1.62053	98
1.581	0.01125	3	1.59225	97	1.611	0.01051	3	1.62151	97
1.582	0.01122	2	1.59322	98	1.612	0.01048	2	1.62248	98
1.583	0.01120	3	1.59420	97	1.613	0.01046	2	1.62346	98
1.584	0.01117	2	1.59517	98	1.614	0.01044	3	1.62444	97
1.585	0.01115	3	1.59615	97	1.615	0.01041	2	1.62541	98
1.586	0.01112	2	1.59712	98	1.616	0.01039	2	1.62639	98
1.587	0.01110	3	1.59810	97	1.617	0.01037	3	1.62737	97
1.588	0.01107	2	1.59907	98	1.618	0.01034	2	1.62834	98
1.589	0.01105	3	1.60005	97	1.619	0.01032	2	1.62932	98
1.590	0.01102		1.60102		1.620	0.01030		1.63030	

A	B	D.	C	D.	A	B	D.	C	D.
1.620	0.01030	3	1.63030	97	1.650	0.00962	3	1.65962	97
1.621	0.01027	2	1.63127	98	1.651	0.00959	2	1.66059	98
1.622	0.01025	3	1.63225	97	1.652	0.00957	2	1.66157	98
1.623	0.01022	2	1.63322	98	1.653	0.00955	2	1.66255	98
1.624	0.01020	2	1.63420	98	1.654	0.00953	2	1.66353	98
1.625	0.01018	2	1.63518	98	1.655	0.00951	3	1.66451	97
1.626	0.01016	3	1.63616	97	1.656	0.00948	2	1.66548	98
1.627	0.01013	2	1.63713	98	1.657	0.00946	2	1.66646	98
1.628	0.01011	2	1.63811	98	1.658	0.00944	2	1.66744	98
1.629	0.01009	3	1.63909	97	1.659	0.00942	2	1.66842	98
1.630	0.01006	2	1.64006	98	1.660	0.00940	2	1.66940	98
1.631	0.01004	2	1.64104	98	1.661	0.00938	2	1.67038	98
1.632	0.01002	3	1.64202	97	1.662	0.00936	3	1.67136	97
1.633	0.00999	2	1.64299	98	1.663	0.00933	2	1.67233	98
1.634	0.00997	2	1.64397	98	1.664	0.00931	2	1.67331	98
1.635	0.00995	2	1.64495	98	1.665	0.00929	2	1.67429	98
1.636	0.00993	3	1.64593	97	1.666	0.00927	2	1.67527	98
1.637	0.00990	2	1.64690	98	1.667	0.00925	2	1.67625	98
1.638	0.00988	2	1.64788	98	1.668	0.00923	2	1.67723	98
1.639	0.00986	2	1.64886	98	1.669	0.00921	2	1.67821	98
1.640	0.00984	3	1.64984	97	1.670	0.00919	2	1.67919	98
1.641	0.00981	2	1.65081	98	1.671	0.00917	2	1.68017	98
1.642	0.00979	2	1.65179	98	1.672	0.00915	3	1.68115	97
1.643	0.00977	2	1.65277	98	1.673	0.00912	2	1.68212	98
1.644	0.00975	2	1.65375	98	1.674	0.00910	2	1.68310	98
1.645	0.00973	3	1.65473	97	1.675	0.00908	2	1.68408	98
1.646	0.00970	2	1.65570	98	1.676	0.00906	2	1.68506	98
1.647	0.00968	2	1.65668	98	1.677	0.00904	2	1.68604	98
1.648	0.00966	2	1.65766	98	1.678	0.00902	2	1.68702	98
1.649	0.00964	2	1.65864	98	1.679	0.00900	2	1.68800	98
1.650	0.00962		1.65962		1.680	0.00898		1.68898	

A	B	D.	C	D.	A	B	D.	C	D.
1.680	0.00898	2	1.68898	98	1.710	0.00839	2	1.71839	98
1.681	0.00896	2	1.68996	98	1.711	0.00837	2	1.71937	98
1.682	0.00894	2	1.69094	98	1.712	0.00835	2	1.72035	98
1.683	0.00892	2	1.69192	98	1.713	0.00833	2	1.72133	98
1.684	0.00890	2	1.69290	98	1.714	0.00831	2	1.72231	98
1.685	0.00888	2	1.69388	98	1.715	0.00829	2	1.72329	98
1.686	0.00886	2	1.69486	98	1.716	0.00827	2	1.72427	98
1.687	0.00884	2	1.69584	98	1.717	0.00825	2	1.72525	98
1.688	0.00882	2	1.69682	98	1.718	0.00823	1	1.72623	99
1.689	0.00880	2	1.69780	98	1.719	0.00822	2	1.72722	98
1.690	0.00878	2	1.69878	98	1.720	0.00820	2	1.72820	98
1.691	0.00876	2	1.69976	98	1.721	0.00818	2	1.72918	98
1.692	0.00874	2	1.70074	98	1.722	0.00816	2	1.73016	98
1.693	0.00872	2	1.70172	98	1.723	0.00814	2	1.73114	98
1.694	0.00870	2	1.70270	98	1.724	0.00812	2	1.73212	98
1.695	0.00868	2	1.70368	98	1.725	0.00810	1	1.73310	99
1.696	0.00866	2	1.70466	98	1.726	0.00809	2	1.73409	98
1.697	0.00864	2	1.70564	98	1.727	0.00807	2	1.73507	98
1.698	0.00862	2	1.70662	98	1.728	0.00805	2	1.73605	98
1.699	0.00860	2	1.70760	98	1.729	0.00803	2	1.73703	98
1.700	0.00858	2	1.70858	98	1.730	0.00801	2	1.73801	98
1.701	0.00856	2	1.70956	98	1.731	0.00799	1	1.73899	99
1.702	0.00854	2	1.71054	98	1.732	0.00798	2	1.73998	98
1.703	0.00852	2	1.71152	98	1.733	0.00796	2	1.74096	98
1.704	0.00850	2	1.71250	98	1.734	0.00794	2	1.74194	98
1.705	0.00848	2	1.71348	98	1.735	0.00792	2	1.74292	98
1.706	0.00846	2	1.71446	98	1.736	0.00790	1	1.74390	99
1.707	0.00844	2	1.71544	98	1.737	0.00789	2	1.74489	98
1.708	0.00842	1	1.71642	99	1.738	0.00787	2	1.74587	98
1.709	0.00841	2	1.71741	98	1.739	0.00785	2	1.74685	98
1.710	0.00839		1.71839		1.740	0.00783		1.74783	

A	B	D.	C	D.	A	B	D.	C	D.
1.740	0.00783	2	1.74783	98	1.770	0.00731	1	1.77731	99
1.741	0.00781	1	1.74881	99	1.771	0.00730	2	1.77830	98
1.742	0.00780	2	1.74980	98	1.772	0.00728	2	1.77928	98
1.743	0.00778	2	1.75078	98	1.773	0.00726	1	1.78026	99
1.744	0.00776	2	1.75176	98	1.774	0.00725	2	1.78125	98
1.745	0.00774	1	1.75274	99	1.775	0.00723	2	1.78223	98
1.746	0.00773	2	1.75373	98	1.776	0.00721	1	1.78321	99
1.747	0.00771	2	1.75471	98	1.777	0.00720	2	1.78420	98
1.748	0.00769	2	1.75569	98	1.778	0.00718	2	1.78518	98
1.749	0.00767	1	1.75667	99	1.779	0.00716	1	1.78616	99
1.750	0.00766	2	1.75766	98	1.780	0.00715	2	1.78715	98
1.751	0.00764	2	1.75864	98	1.781	0.00713	1	1.78813	99
1.752	0.00762	2	1.75962	98	1.782	0.00712	2	1.78912	98
1.753	0.00760	1	1.76060	99	1.783	0.00710	2	1.79010	98
1.754	0.00759	2	1.76159	98	1.784	0.00708	1	1.79108	99
1.755	0.00757	2	1.76257	98	1.785	0.00707	2	1.79207	98
1.756	0.00755	2	1.76355	98	1.786	0.00705	2	1.79305	98
1.757	0.00753	1	1.76453	99	1.787	0.00703	1	1.79403	99
1.758	0.00752	2	1.76552	98	1.788	0.00702	2	1.79502	98
1.759	0.00750	2	1.76650	98	1.789	0.00700	1	1.79600	99
1.760	0.00748	1	1.76748	99	1.790	0.00699	2	1.79699	98
1.761	0.00747	2	1.76847	98	1.791	0.00697	1	1.79797	99
1.762	0.00745	2	1.76945	98	1.792	0.00696	2	1.79896	98
1.763	0.00743	2	1.77043	98	1.793	0.00694	2	1.79994	98
1.764	0.00741	1	1.77141	99	1.794	0.00692	1	1.80092	99
1.765	0.00740	2	1.77240	98	1.795	0.00691	2	1.80191	98
1.766	0.00738	2	1.77338	98	1.796	0.00689	1	1.80289	99
1.767	0.00736	1	1.77436	99	1.797	0.00688	2	1.80388	98
1.768	0.00735	2	1.77535	98	1.798	0.00686	2	1.80486	98
1.769	0.00733	2	1.77633	98	1.799	0.00684	1	1.80584	99
1.770	0.00731		1.77731		1.800	0.00683		1.80683	

A	B	D.	C	D.	A	B	D.	C	D.
1.800	0.00683	2	1.80683	98	1.830	0.00638	2	1.83638	98
1.801	0.00681	1	1.80781	99	1.831	0.00636	1	1.83736	99
1.802	0.00680	2	1.80880	98	1.832	0.00635	2	1.83835	98
1.803	0.00678	1	1.80978	99	1.833	0.00633	1	1.83933	99
1.804	0.00677	2	1.81077	98	1.834	0.00632	2	1.84032	98
1.805	0.00675	1	1.81175	99	1.835	0.00630	1	1.84130	99
1.806	0.00674	2	1.81274	98	1.836	0.00629	1	1.84229	99
1.807	0.00672	1	1.81372	99	1.837	0.00628	2	1.84328	98
1.808	0.00671	2	1.81471	98	1.838	0.00626	1	1.84426	99
1.809	0.00669	2	1.81569	98	1.839	0.00625	2	1.84525	98
1.810	0.00667	1	1.81667	99	1.840	0.00623	1	1.84623	99
1.811	0.00666	2	1.81766	98	1.841	0.00622	2	1.84722	98
1.812	0.00664	1	1.81864	99	1.842	0.00620	1	1.84820	99
1.813	0.00663	2	1.81963	98	1.843	0.00619	1	1.84919	99
1.814	0.00661	1	1.82061	99	1.844	0.00618	2	1.85018	98
1.815	0.00660	2	1.82160	98	1.845	0.00616	1	1.85116	99
1.816	0.00658	1	1.82258	99	1.846	0.00615	2	1.85215	98
1.817	0.00657	2	1.82357	98	1.847	0.00613	1	1.85313	99
1.818	0.00655	1	1.82455	99	1.848	0.00612	1	1.85412	99
1.819	0.00654	2	1.82554	98	1.849	0.00611	2	1.85511	98
1.820	0.00652	1	1.82652	99	1.850	0.00609	1	1.85609	99
1.821	0.00651	2	1.82751	98	1.851	0.00608	2	1.85708	98
1.822	0.00649	1	1.82849	99	1.852	0.00606	1	1.85806	99
1.823	0.00648	2	1.82948	98	1.853	0.00605	1	1.85905	99
1.824	0.00646	1	1.83046	99	1.854	0.00604	2	1.86004	98
1.825	0.00645	1	1.83145	99	1.855	0.00602	1	1.86102	99
1.826	0.00644	2	1.83244	98	1.856	0.00601	2	1.86201	98
1.827	0.00642	1	1.83342	99	1.857	0.00599	1	1.86299	99
1.828	0.00641	2	1.83441	98	1.858	0.00598	1	1.86398	99
1.829	0.00639	1	1.83539	99	1.859	0.00597	2	1.86497	98
1.830	0.00638		1.83638		1.860	0.00595		1.86595	

A	B	D.	C	D.	A	B	D	C	D.
1.860	0.00595	1	1.86595	99	1.890	0.00556	1	1.89556	99
1.861	0.00594	1	1.86694	99	1.891	0.00555	2	1.89655	98
1.862	0.00593	2	1.86793	98	1.892	0.00553	1	1.89753	99
1.863	0.00591	1	1.86891	99	1.893	0.00552	1	1.89852	99
1.864	0.00590	1	1.86990	99	1.894	0.00551	1	1.89951	99
1.865	0.00589	2	1.87089	98	1.895	0.00550	2	1.90050	98
1.866	0.00587	1	1.87187	99	1.896	0.00548	1	1.90148	99
1.867	0.00586	1	1.87286	99	1.897	0.00547	1	1.90247	99
1.868	0.00585	2	1.87385	98	1.898	0.00546	1	1.90346	99
1.869	0.00583	1	1.87483	99	1.899	0.00545	2	1.90445	98
1.870	0.00582	1	1.87582	99	1.900	0.00543	1	1.90543	99
1.871	0.00581	2	1.87681	98	1.901	0.00542	1	1.90642	99
1.872	0.00579	1	1.87779	99	1.902	0.00541	1	1.90741	99
1.873	0.00578	1	1.87878	99	1.903	0.00540	2	1.90840	98
1.874	0.00577	2	1.87977	98	1.904	0.00538	1	1.90938	99
1.875	0.00575	1	1.88075	99	1.905	0.00537	1	1.91037	99
1.876	0.00574	1	1.88174	99	1.906	0.00536	1	1.91136	99
1.877	0.00573	2	1.88273	98	1.907	0.00535	2	1.91235	98
1.878	0.00571	1	1.88371	99	1.908	0.00533	1	1.91333	99
1.879	0.00570	1	1.88470	99	1.909	0.00532	1	1.91432	99
1.880	0.00569	2	1.88569	98	1.910	0.00531	1	1.91531	99
1.881	0.00567	1	1.88667	99	1.911	0.00530	1	1.91630	99
1.882	0.00566	1	1.88766	99	1.912	0.00529	2	1.91729	98
1.883	0.00565	1	1.88865	99	1.913	0.00527	1	1.91827	99
1.884	0.00564	2	1.88964	98	1.914	0.00526	1	1.91926	99
1.885	0.00562	1	1.89062	99	1.915	0.00525	1	1.92025	99
1.886	0.00561	1	1.89161	99	1.916	0.00524	1	1.92124	99
1.887	0.00560	2	1.89260	98	1.917	0.00523	2	1.92223	98
1.888	0.00558	1	1.89358	99	1.918	0.00521	1	1.92321	99
1.889	0.00557	1	1.89457	99	1.919	0.00520	1	1.92420	99
1.890	0.00556		1.89556		1.920	0.00519		1.92519	

A	B	D.	C	D.	A	B	D	C	D
1.920	0.00519	1	1.92519	99	1.950	0.00485	2	1.95485	98
1.921	0.00518	1	1.92618	99	1.951	0.00483	1	1.95583	99
1.922	0.00517	2	1.92717	98	1.952	0.00482	1	1.95682	99
1.923	0.00515	1	1.92815	99	1.953	0.00481	1	1.95781	99
1.924	0.00514	1	1.92914	99	1.954	0.00480	1	1.95880	99
1.925	0.00513	1	1.93013	99	1.955	0.00479	1	1.95979	99
1.926	0.00512	1	1.93112	99	1.956	0.00478	1	1.96078	99
1.927	0.00511	1	1.93211	99	1.957	0.00477	1	1.96177	99
1.928	0.00510	2	1.93310	98	1.958	0.00476	1	1.96276	99
1.929	0.00508	1	1.93408	99	1.959	0.00475	1	1.96375	99
1.930	0.00507	1	1.93507	99	1.960	0.00474	1	1.96474	99
1.931	0.00506	1	1.93606	99	1.961	0.00473	2	1.96573	98
1.932	0.00505	1	1.93705	99	1.962	0.00471	1	1.96671	99
1.933	0.00504	1	1.93804	99	1.963	0.00470	1	1.96770	99
1.934	0.00503	1	1.93903	99	1.964	0.00469	1	1.96869	99
1.935	0.00502	2	1.94002	98	1.965	0.00468	1	1.96968	99
1.936	0.00500	1	1.94100	99	1.966	0.00467	1	1.97067	99
1.937	0.00499	1	1.94199	99	1.967	0.00466	1	1.97166	99
1.938	0.00498	1	1.94298	99	1.968	0.00465	1	1.97265	99
1.939	0.00497	1	1.94397	99	1.969	0.00464	1	1.97364	99
1.940	0.00496	1	1.94496	99	1.970	0.00463	1	1.97463	99
1.941	0.00495	1	1.94595	99	1.971	0.00462	1	1.97562	99
1.942	0.00494	2	1.94694	98	1.972	0.00461	1	1.97661	99
1.943	0.00492	1	1.94792	99	1.973	0.00460	1	1.97760	99
1.944	0.00491	1	1.94891	99	1.974	0.00459	1	1.97859	99
1.945	0.00490	1	1.94990	99	1.975	0.00458	1	1.97958	99
1.946	0.00489	1	1.95089	99	1.976	0.00457	1	1.98057	99
1.947	0.00488	1	1.95188	99	1.977	0.00456	2	1.98156	98
1.948	0.00487	1	1.95287	99	1.978	0.00454	1	1.98254	99
1.949	0.00486	1	1.95386	99	1.979	0.00453	1	1.98353	99
1.950	0.00485		1.95485		1.980	0.00452		1.98452	

A	B	D.	C	D.	A	B	D.	C	Dif.
1.980	0.00452	1	1.98452	99	2.10	0.00344	8	2.10344	992
1.981	0.00451	1	1.98551	99	2.11	0.00336	8	2.11336	992
1.982	0.00450	1	1.98650	99	2.12	0.00328	7	2.12328	993
1.983	0.00449	1	1.98749	99	2.13	0.00321	8	2.13321	992
1.984	0.00448	1	1.98848	99	2.14	0.00313	7	2.14313	993
1.985	0.00447	1	1.98947	99	2.15	0.00306	7	2.15306	993
1.986	0.00446	1	1.99046	99	2.16	0.00299	6	2.16299	994
1.987	0.00445	1	1.99145	99	2.17	0.00293	7	2.17293	993
1.988	0.00444	1	1.99244	99	2.18	0.00286	6	2.18286	994
1.989	0.00443	1	1.99343	99	2.19	0.00280	7	2.19280	993
1.990	0.00442	1	1.99442	99	2.20	0.00273	6	2.20273	994
1.991	0.00441	1	1.99541	99	2.21	0.00267	6	2.21267	994
1.992	0.00440	1	1.99640	99	2.22	0.00261	6	2.22261	994
1.993	0.00439	1	1.99739	99	2.23	0.00255	6	2.23255	994
1.994	0.00438	1	1.99838	99	2.24	0.00249	5	2.24249	995
1.995	0.00437	1	1.99937	99	2.25	0.00244	6	2.25244	994
1.996	0.00436	1	2.00036	99	2.26	0.00238	5	2.26238	995
1.997	0.00435	1	2.00135	99	2.27	0.00233	6	2.27233	994
1.998	0.00434	1	2.00234	99	2.28	0.00227	5	2.28227	995
1.999	0.00433	1	2.00333	99	2.29	0.00222	5	2.29222	995
2.000	0.00432	10	2.00432	990	2.30	0.00217	5	2.30217	995
2.01	0.00422	9	2.01422	991	2.31	0.00212	5	2.31212	995
2.02	0.00413	10	2.02413	990	2.32	0.00207	4	2.32207	996
2.03	0.00403	9	2.03403	991	2.33	0.00203	5	2.33203	995
2.04	0.00394	9	2.04394	991	2.34	0.00198	4	2.34198	996
2.05	0.00385	8	2.05385	992	2.35	0.00194	5	2.35194	995
2.06	0.00377	9	2.06377	991	2.36	0.00189	4	2.36189	996
2.07	0.00368	8	2.07368	992	2.37	0.00185	4	2.37185	996
2.08	0.00360	8	2.08360	992	2.38	0.00181	4	2.38181	996
2.09	0.00352	8	2.09352	992	2.39	0.00177	4	2.39177	996
2.10	0.00344		2.10344		2.40	0.00173		2.40173	

A	B	D.	C	Dif.	A	B	D.	C	Dif.
2.40	0.00173	4	2.40173	996	2.70	0.00087	2	2.70087	998
2.41	0.00169	4	2.41169	996	2.71	0.00085	2	2.71085	998
2.42	0.00165	4	2.42165	996	2.72	0.00083	2	2.72083	998
2.43	0.00161	4	2.43161	996	2.73	0.00081	2	2.73081	998
2.44	0.00157	3	2.44157	997	2.74	0.00079	2	2.74079	998
2.45	0.00154	4	2.45154	996	2.75	0.00077	2	2.75077	998
2.46	0.00150	3	2.46150	997	2.76	0.00075	1	2.76075	999
2.47	0.00147	3	2.47147	997	2.77	0.00074	2	2.77074	998
2.48	0.00144	4	2.48144	996	2.78	0.00072	2	2.78072	998
2.49	0.00140	3	2.49140	997	2.79	0.00070	1	2.79070	999
2.50	0.00137	3	2.50137	997	2.80	0.00069	2	2.80069	998
2.51	0.00134	3	2.51134	997	2.81	0.00067	1	2.81067	999
2.52	0.00131	3	2.52131	997	2.82	0.00066	2	2.82066	998
2.53	0.00128	3	2.53128	997	2.83	0.00064	1	2.83064	999
2.54	0.00125	3	2.54125	997	2.84	0.00063	2	2.84063	998
2.55	0.00122	3	2.55122	997	2.85	0.00061	1	2.85061	999
2.56	0.00119	2	2.56119	998	2.86	0.00060	1	2.86060	939
2.57	0.00117	3	2.57117	997	2.87	0.00059	2	2.87059	998
2.58	0.00114	3	2.58114	997	2.88	0.00057	1	2.88057	999
2.59	0.00111	2	2.59111	998	2.89	0.00056	1	2.89056	999
2.60	0.00109	3	2.60109	997	2.90	0.00055	2	2.90055	998
2.61	0.00106	2	2.61106	998	2.91	0.00053	1	2.91053	999
2.62	0.00104	2	2.62104	998	2.92	0.00052	1	2.92052	999
2.63	0.00102	3	2.63102	997	2.93	0.00051	1	2.93051	999
2.64	0.00099	2	2.64099	998	2.94	0.00050	1	2.94050	999
2.65	0.00097	2	2.65097	998	2.95	0.00049	1	2.95049	999
2.66	0.00095	2	2.66095	998	2.96	0.00048	1	2.96048	999
2.67	0.00093	2	2.67093	998	2.97	0.00047	2	2.97047	998
2.68	0.00091	2	2.68091	998	2.98	0.00045	1	2.98045	999
2.69	0.00089	2	2.69089	998	2.99	0.00044	1	2.99044	999
2.70	0.00087		2.70087		3.00	0.00043		3.00043	

A	B	D.	C	Dif.	A	B	D.	C	Dif.
3.00	0.00043	1	3.00043	999	3.30	0.00022	1	3.30022	999
3.01	0.00042	1	3.01042	999	3.31	0.00021	0	3.31021	1000
3.02	0.00041	0	3.02041	1000	3.32	0.00021	1	3.32021	999
3.03	0.00041	1	3.03041	999	3.33	0.00020	0	3.33020	1000
3.04	0.00040	1	3.04040	999	3.34	0.00020	1	3.34020	999
3.05	0.00039	1	3.05039	999	3.35	0.00019	0	3.35019	1000
3.06	0.00038	1	3.06038	999	3.36	0.00019	0	3.36019	1000
3.07	0.00037	1	3.07037	999	3.37	0.00019	1	3.37019	999
3.08	0.00036	1	3.08036	999	3.38	0.00018	0	3.38018	1000
3.09	0.00035	1	3.09035	999	3.39	0.00018	1	3.39018	999
3.10	0.00034	0	3.10034	1000	3.40	0.00017	3	3.40017	9997
3.11	0.00034	1	3.11034	999	3.5	0.00014	3	3.50014	9997
3.12	0.00033	1	3.12033	999	3.6	0.00011	2	3.60011	9998
3.13	0.00032	1	3.13032	999	3.7	0.00009	2	3.70009	9998
3.14	0.00031	0	3.14031	1000	3.8	0.00007	2	3.80007	9998
3.15	0.00031	1	3.15031	999	3.9	0.00005	1	3.90005	9995
3.16	0.00030	1	3.16030	999	4.0	0.00004	1	4.00004	9999
3.17	0.00029	0	3.17029	1000	4.1	0.00003	0	4.10003	10000
3.18	0.00029	1	3.18029	999	4.2	0.00003	1	4.20003	9999
3.19	0.00028	1	3.19028	999	4.3	0.00002	0	4.30002	10000
3.20	0.00027	0	3.20027	1000	4.4	0.00002	1	4.40002	9999
3.21	0.00027	1	3.21027	999	4.5	0.00001	0	4.50001	10000
3.22	0.00026	0	3.22026	1000	4.6	0.00001	0	4.60001	10000
3.23	0.00026	1	3.23026	999	4.7	0.00001	0	4.70001	10000
3.24	0.00025	1	3.24025	999	4.8	0.00001	0	4.80001	10000
3.25	0.00024	0	3.25024	1000	4.9	0.00001	1	4.90001	9999
3.26	0.00024	1	3.26024	999	5.0	0.00000		5.00000	
3.27	0.00023	0	3.27023	1000					
3.28	0.00023	1	3.28023	999					
3.29	0.00022	0	3.29022	1000					
3.30	0.00022		3.30022						

